The Week

HOME 1–6
Select committee bids for Aberdeen merger inquiry
Polytechnic responds to engineering course criticisms
University science park head resigns over policy
Institute urges higher education funding shift

OVERSEAS 6–7
Australia will need 10 new universities, warns state chairman
Austerity measures hit American academics
Student demonstrations mark the new term in Spain
Toronto conference discusses ethics and the university

ARTICLES 8–12
The rise of the defence debate: Paul Flather and Jon Turney look at war and peace studies and campus pressure groups, 8
The polyversity: Peter Scott examines the rationale behind the idea and its progress, 9
Patricia Santinelli on teaching politics on youth training schemes, 9
Robbins Report – Richard Hoggart contributes the first of five articles to mark the report's twentieth anniversary; and Peter Scott reexamines the six principles, 10–11
Brian Morton pays tribute to the French sociologist, Raymond Aron; Philip Schlesinger reports on his discussions with Polish sociologists, 12

NOTICEBOARD 13

ARTS 14
Rupert Christiansen reviews Channel 4's *Songs for Bad Times*; Richard Allen Cave on the Dublin Theatre Festival

BOOKS 15–21
John Beer reviews the new edition of Coleridge's *Biographia Literaria* and examines its contemporary significance, 15
Michael Riff on European Jews, David Gillard on Indian merchants, (16) John Barrow reviews the *Mathematical Theory of Black Holes*, Stephen Oliver on biotechnology, (17)

SOCIOLOGY BOOKS 18–21
Max Weber, police organization, the family, and ethnomethodology are among the subjects discussed by reviewers

CLASSIFIED INDEX 22

OPINION 26–28
Ernest Boyer on catering for the ethnic minorities; Jack Straw on political luck and political judgment; Don's Diary from Jeff Henderson, 26
Letters on research and teaching skills, and the Academic Council for Peace and Freedom; Union View from the AUT, 27

Next Week

Charles Carter on Robbins
ABRC briefing
Polyversities: the national dimension
K. O. Morgan on Keynes
Maths and physics books

HIGHER EDUCATION SUPPLEMENT
Priory House, St John's Lane, London EC1M 4BX. Telephone 01-253 3000

Sir Peter's 20 questions

Towards the end of next week, vice chancellors will receive their first letter from the new chairman of the University Grants Committee, Sir Peter Swinnerton-Dyer. It may cause a few surprises. In the past UGC letters have not been exciting documents. Although often pregnant with dramatic decisions, they have been written in a style that if not pedestrian has been deliberately low-key and even oblique.

Next week's letter will probably be different – not only because it will bear a new signature but because it has a different object. Up to now letters from the committee have been designed to collect information methodically or to consult universities formally about the intentions of the UGC and finally to inform universities about the consequences of the committee's decisions. They have not been designed to encourage much lateral thinking in the universities about their future direction. Exchanges between the committee and universities have been deliberately confined – and so have occasionally run the risk of appearing cramped.

The new UGC letter in contrast will be designed to open up rather than confine the debate about the future of the universities. Sir Peter rightly is determined to stimulate a much more open and less constrained debate within the universities. His political masters, Sir Keith Joseph and Mr Peter Brooke, are equally determined that the agenda should be as open as [illegible] exercise is for the universities to guide the UGC which in turn will try to guide Sir Keith about the future direction the system should take.

So rather than asking universities to answer in a formal and rather stiff way a limited number of quite specific questions, Sir Peter's letter will ask a much larger number of more wide-ranging questions only some of which will be specific and so compulsory in the old sense. Moreover the UGC will encourage a plurality of views from anyone who wants to take part in its great debate, rather than simply waiting for the formal, monolithic, and sometimes not very illuminating views that serve as the formal positions of individual universities. In short almost any questions can be asked and almost anyone can answer them.

This attempt by the UGC to superimpose on its traditional and tightly drawn planning procedures a much more populist experiment in participatory debate will probably receive a mixed reception in the universities. Some people may feel that the UGC should continue its rather formal relationship with universities, because the much more activist planning style that will probably be foreshadowed in Sir Peter's letter could lead to greater interference in the internal affairs of individual institutions.

However understandable this is probably an unrealistic criticism in the difficult circumstances of the early 1980s. For if the UGC fails to compete with the political feel and administrative panache of its new junior rival, the National Advisory Body, and if the universities fail to learn the sophisticated language of higher education policy, the future of the former and the freedom of the latter will remain in jeopardy.

In his valedictory speech as chair[illegible] warned that never again would a Government allow the committee a free hand as it had in 1981. He also pointed out that the Department of Education and Science, both civil servants and ministers, perhaps had an instinctive bias towards non-university higher education precisely because they were much more familiar with how it worked and were rebuffed by the impenetrability of the universities.

Two conclusions can be drawn from Sir Edward's remarks. First the UGC and the universities together must raise their consciousness of the issues of higher education policy so that the developing dialogue with Government is not a one-way street; secondly to offer the DES a policy partnership, provided this was carefully policed in the interests of university autonomy, might increase its familiarity with the universities and so its sympathy for them.

So the UGC is right to try to change the rather stiff relations which it has traditionally had with individual universities. It is right to try to make the partnership more open, more flexible, and wider-ranging. But if the UGC is trying to move towards a new style, the substance of the issues on which it must offer guidance to the Secretary of State remains the same.

Sir Keith will want to know what the UGC, and through it the universities, think about greater selectivity leading maybe to a more explicit hierarchy of institutions, about alternative sources and means of finance, about earmarking money for research, about closer cooperation with the NAB and non-university higher education. The list is deadeningly familiar.

Some of these proposals for change should be accepted; others rejected. But all of them need to be carefully considered. By seeking to open up the debate the UGC is not saying that it favours these proposals. Indeed a broader and deeper debate is as likely to lead to their ultimate, and maybe rightful, rejection. But it is ensuring that universities are active partners in, rather than passive spectators of the political game that will divide their future path.

Building a position of strength

The Advisory Board for the Research Councils is building itself a stronger role in setting scientific priorities. Changes now in prospect could turn an already influential body into the key group in a science policy machinery controlled more strongly from the centre.

Such a move is difficult to weigh up because the board has been a distinctively inscrutable group for most of its 11 years of operation. Generally, decisions simply have emerged, without being explained. We know the ABRC has long found that its advice on the division of the science budget is carried out. Save in those years when the Secretary of State for Education took against the Social Science Research Council, the board's recommended allocations to the five research councils and the Royal Society in its annual "forward look" have been followed to the letter. And we know most have found this acceptable. The ABRC deals with a department – Education and Science – with little inclination to take a view on the details of science spending, and up to now the board has acted mainly as a forum for the individual councils to haggle over the small share of the budget not already committed to recurrent expenditure.

However, a more dirigiste ABRC is now taking shape, in response to new pressures on the DES science vote – pressures to take more account of the policy interests of other departments, especially the Department of Trade and Industry; pressures to make sure the research councils are prepared to cut old programmes to make way for promising new fields and pressures to demonstrate that a spending-conscious government gets value for money from its £500m annual investment through the board. The board's new role is already evident in a move to draw up a list of "scientific opportunities" as part of this year's forward look exercise. And its claim to that role will be backed by Sir Ronald Mason's report on the research council system, now with Sir Keith Joseph at the DES. Sir Ronald's report on the operation of the customer-contractor principle – by which govenment departments make separate arrangements with individual research councils for applied research – proposes that the ABRC take responsibility for coordinating "strategic" research, for which there is no obvious customer. And it foreshadows a weightier task for the board as a clearing house for information about government-funded research and development.

All this would clearly put the ABRC in a much stronger position to direct the research councils towards particular priority areas. Sir Ronald apparently has retreated from a suggestion that the word "advisory" be deleted from the board's title, but this is said to be the spirit of his proposals. They will be fought by the councils on the grounds that only they are close enough to the growing points of science to be able to judge which areas are ripe for encouragement – plant science or astrophysics, climatology or robotics. The claim has some force, but is weakened for the outsider because we know almost as little about how individual councils assess priorities as about the criteria for ranking new proposals within the ABRC.

It would be simple to dispel that ignorance. Let us see the detailed forward looks prepared by the individual councils published each year. And in the wider orbit of the ABRC there exists the scientific opportunities paper, as well as a review of the whole of government-funded research and development. It is not too late to include them both as appendices to Sir Ronald's report.

No financial refuge

In the last year, in spite of a lengthy wrangle over residence qualifications recipitated by an unexpected judgment in the House of Lords, the Government has begun to adopt a more enlightened approach to the question of overseas students' fees and grants. Its £43m rescue package, although far from ideal, sent an important signal both to potential students and to Britain's friends abroad, as well as reassuring some critics at home.

It is all the more surprising, therefore, to find ministers introducing measures which will worsen the lot of refugee students, the one group which mustered sufficient support and public sympathy to secure special treatment well before any other mitigation was allowed. The amount of money to be saved by refusing grants to those who are granted asylum after embarking on courses, rather than before, is trifling and certainly not worth the odium which is likely to result.

The Government had already laid itself open to charges of duplicity in failing to extend preferential treatment to other groups generally thought of as refugees. What was taken as a commitment to do so has not been honoured and the students concerned are left to scramble for the minimal resources available in most local authorities as discretionary awards.

It is, of course, a minister's privilege to change his or her mind about any extension of special treatment, but to alter the thrust of existing arrangements without so much as an announcement is a different matter. Refugees are defined as such because of the current situation in their home country; what it was like when they left is irrelevant, as the Home Office accepts.

Laurie Taylor

(*Applications will shortly be in Koestler appointments in psychology*)

Well, gentleman, you'll not b prised to hear that your appoi committee has had a most diffic in choosing between the many e lent applications for these posts only after extended discussion th felt able to compile a short-l three.

Firstly the application fro *UGC*. The subject area here - pathy – is of course a tradition well documented one in this di and therefore we were looki clear evidence of excellence. Th readily available. The appoin committee was most favourab pressed by the long record of ful experiments which the UGC were able to bring to our at Particularly important here wa experimental telepathic progra carried out between 1981 and 19 this programme a group of U members regularly sat round a central London and psych absorbed information abou academic standing, research cap and student demand relating whole range of academic depart within the United Kingdom. Al there have been one or two sugges in well-respected journals that information might have been obt beforehand by factual inquiry – perts are now almost unanimou their view that the overwhelming of "information" could only have discovered through the exercis paranormal methods.

Turning now to the *second* ful submission – that from *HM spectorate*. I must say quite frankly your committee was initially pathetic to this application o grounds that exorcism is still far being regarded as an adequ documented research area withi rapsychology. But our opinions quickly to be revised as we confronted by the detailed evid from the Inspectorate of their ful search for "devils" in North don Polytechnic. This was indeed quite remarkable find, especially view of the large number of pre researchers who had found no dence of the existence of such nomena despite extensive and longed inquiry. *Well done HM spectorate.*

Finally, we must offer the congratulations to the *CVCP* research team (that's the Committee of Vice Chancellors and Principals). Although their experimental work has only cently been completed it has an nality which immediately commend itself to the committee. As most of will know, in response to concern, the university unit of source was, some time ago, declar be in need of permanent protectio was carefully sealed and kept from any possible source of tamination. However, despite all precautions, the CVCP operating is experimentally required – in a rarefied atmosphere, were able demonstration which rivals some Geller's middle period work) to and bend this unit of resource in way that experts now doubt if it ever again be possible to restore former size. *A formidable feat.*

And now perhaps we could our choice from this short-list appropriate way. Registrar? Wo you care to choose a card . . . ?

© TIMES NEWSPAPERS LIMITED, 1983
Published by Times Newspapers Ltd., P.O. Box Gray's Inn Road, London WC1X 8EZ, Typesetting by ComputerGraphics Ltd, 37-41 St., London EC1, and printing by Mercury Co. Ltd., Upper Mounts, NN1 3HR, Friday, October 28, 1983. Registered newspaper at the Post Office. ISSN 0049-

---

The Times Higher Education Supplement

November 4, 1983 No 574 Price 50p

The University Grants Committee photographed in session for the first time: Left to right, they are Professors Peter Moore (London Business School) and Mary Hesse (Cambridge University), Sir Peter Baxendell (chairman of Shell Transport and Trading), Mr Edwin Appleyard and Mr Barney Baker (UGC assistant secretaries), Mr Norman Hardyman (UGC secretary), Sir Peter Swinnterton-Dyer (chairman) Miss Deirdre Fordham (assistant secretary), Mr Dennis Strachan (superintending surveyor), Professors John Forty (Warwick University), Douglas Jones (Dundee University), Gareth Morris (University College, Aberystwyth), Gordon Higginson (Durham University) and Keith Clayton (University of East Anglia) and Mrs Tydfil Thomas (head of Aberdare girls' comprehensive school).

UGC's great debate aims at sacred cows

by Ngaio Crequer

The University Grants Committee opened its great debate this week with a 12-page letter to vice chancellors that asks 29 questions, many of which attack the most sacred cows of the university system.

Top of the UGC's list for debate are closures, tenure, two-year degrees, a new deal for research, and the end of the binary policy that now divides higher education.

The letter, the first to emanate from the committee under its new chairman Sir Peter Swinnerton-Dyer, sets out the views of Sir Keith Joseph, the Secretary of State for Education, and then asks for comment and reaction by March 31, 1984.

It says it is up to the universities to decide whether to answer the questions, but they would particularly like an answer to the first two. The other questions are more suited to groups and individuals than institutions.

The letter notes that Sir Keith has also asked the National Advisory Body to encourage the same kind of debate in public sector institutions. "There will have to be an eventual reconciliation between the replies of NAB and the UGC to the Secretary of State", says the letter.

It continues: "We see no possibility of resource per student (i.e. home fees and recurrent grant) being increased in real terms, except we would hope to take account of a shift in balance of students from cheaper to more expensive subjects."

The letter then repeats Sir Keith's suggestion that universities should consider a cut of resource per student of up to 2 per cent in real terms in each of the next five years, and up to 1 per cent in each of the following five years.

Taking this into account as well as the latest Department of Education and Science student demand projections, the first two questions are: 1. (On the assumption of a) constant numbers of home and EEC students and b) constant resources per student in real terms between 1983/84 and 1989/90 inclusive, what changes will your institution want to make and how do you plan to achieve them?

2. How would your answer be affected if student numbers were to remain constant but resource per student in real terms were to drop at a steady rate of a) 1 per cent a year b) 2 per cent a year?

After 1990, the UGC says, it is difficult to see the universities in isolation, or to predict distribution of students among sectors.

The third question asks how the higher education system will cope with a 15 to 20 per cent drop in student numbers between 1991 and 2000. What scope is there for reorganization, mergers and collaboration. "Should a significant number of institutions be closed in 1990 to 1994 and what criteria and machinery should decided which?"

In a section on research the letter asks if the 1981 cuts fell more heavily on research, particularly on science research, than on teaching. What counter-measures have been taken?

Other questions include: Do you think the dual support system can survive? Would you favour earmarking the research component of the grant, and what would this cover? Should there be greater selectivity in research funding? In which areas should there be special investment?

On tenure, the UGC says (and gives figures to show) staff losses have left a very unbalanced distribution. On the best assumptions new appointments in the next decade will only be made at the rate of 1 and 1½ per cent per annum.

But the Advisory Board for Research Councils argued, and the DES accepted (during the "new blood"

continued on page 3

NAB concentrates on closures

by David Jobbins
and Felicity Jones

One of Kent's three art colleges and a polytechnic school of architecture face closure in the National Advisory Body's new drive to concentrate students into the larger institutions and impose more course rationalization.

The chairman of the joint NAB and University Grants Committee working group on architectural education is to appeal directly to education ministers over the decision to close the North East London Polytechnic school of architecture without consulting the working group.

Lord Esher is to write to Mr Peter Brooke, under-secretary of state for higher education, asking the Government to reject this proposal because it would undermine the value and credibility of the working group.

The NAB has written to Kent County Council asking for its urgent views on "rationaliaztion" of the courses provided by Maidstone and Canterbury colleges of art on one site.

Maidstone is the smaller, and it would be likely that its courses should be transferred to Canterbury. But students argue that there would be too many students for the Canterbury site and a second option under discussion is to transfer courses from both colleges to Nonington College, which is already scheduled to close under the NAB's proposals.

Kent has warned the NAB that no rationalization is possible for the 1984/85 academic year and has protested bitterly at the lack of information and tight timetable expected for its response.

The Kent proposal is the most radical yet disclosed of the latest rash of plans to concentrate advanced further education in the largest providers. Less extensive proposals for concentration, stopping short of institutional closures, have been sent to Richmond upon Thames College, and to Hertfordshire, Bedfordshire and Cheshire county councils.

A number of local authorities are resisting the pressure to concentrate courses which emerged from the NAB's residential weekend in Eastbourne. They feel that these considerations were taken into account during the original consultation process. As as result of their hostility it now seems unlikely that the NAB secretariat will put forward as many changes next week as its board had hoped for.

Ms Jean Bocock, assistant secretary for further education of the National Association of Teachers in Further and Higher Education, said the union was concerned that the basis of approaches to local authorities was solely on economic grounds.

Confusion reigns at the NELP over the exact plans of the NAB board. Mr Gerry Fowler, the polytechnic's director, was at first told there would be no intake of students next year. But when the letter arrived it said there would be no full-time or sandwich intake, which does not take account of part-time students.

"This preempts the decision of the Esher committee which might as well not exist if the board is going to take decisions like this in advance," he said. "If the committee had said that our school of architecture should close then I would not cavil."

Change of plan over budgets

by John O'Leary

Budgets notified provisionally to institutions in the first draft of the National Advisory Body's plan for 1984/85 have been scrapped in the search for a system which will switch millions of pounds into the polytechnics.

An all-day meeting of the working group which devised the original funding system agreed that it should be presented to next week's crucial meeting of the NAB board "for information only". The scheme will be adjusted substantially to form one of three options before the board, but more support is being given to the alternative system produced by the Department of Education and Science and to a new plan to give preferential treatment to the polytechnics.

The reintroduction of "moderation" to limit the rate of change expected of any institution and to take account of existing costs would tilt the balance back towards the polytechnics. But [illegible] of the original system, which bases budgets on next year's student numbers, still show the colleges gaining most.

The polytechnics would gain £13m compared with the provisional budgets included in the plan but would receive little more money than in the current year.

Under the latest option to be put before the board, the total amount available through the advanced further education pool would be divided three ways before institutional allocations were determined, Polytechnics would receive the largest share, while the colleges would be designated "major" or "minor" establishments according to their proportion of advanced work and total number of students.

The third option, which would base next year's budgets on last year's allocation, would produce a similar shift in favour of the polytechnics but would not necessarily take account of recent changes in student numbers.

The additional £20m to be included in next year's pool will produce some 2000 places in London and the Home Counties, mostly in polytechnics.

Leader, back page

The New History in middle age, 12-13

Kenneth Morgan on Skidelsky's Keynes, 15

Polyversities: the national dimension, 9

DES snubs research

A researcher who carried out Department of Education and Science funded research has claimed that neither the department nor her university will release the work for public presentation.

Ms Judy Roizen, formerly of the department of government at Brunel University, and Mark Jepson, also of Brunel, carried out a study into the employers' views of graduates from universities and the public sector.

The work is part of a larger project on "Expectations of higher education" which involves studies of students and careers advisers and case studies of institutions.

Ms Roizen's claims have been strenuously denied by both Professor Maurice Kogan, the project director, and Mr David Forrester, assistant secretary at the DES and chairman of the project steering group.

The Roizen and Jepson report is potentially controversial, because of its evidence that university graduates were on average preferred to polytechnic graduates.

The study found that the overwhelming majority of employers were university rather than polytechnic graduates. They noted that university candidates needed to get, and did get better A level results and they assumed they were therefore of higher quality.

Labour names strong education team

Education has survived the slimming-down of Labour's front bench team with the announcement this week of three Commons spokesmen headed by Mr Giles Radice, MP for Durham North.

With the reduction in the number of specialist posts it had been expected that the education team would be cut from three to two. But a reallocation of responsibilities has produced a new post to be filled by Mr Barry Sheerman, MP for Huddersfield, who will speak on youth unemployment and training under the joint stewardship of Mr Radice and Mr John Smith, the shadow Employment Secretary.

The higher education brief is likely to be taken by the junior education spokesman, Mr Andrew Bennett, MP for Denton and Reddish, a former teacher. The precise division of responsibilities was being discussed yesterday.

Mr Radice, a former employment spokesman, said he was delighted to be offered the education post since it was the one he had hoped for after his election to the shadow cabinet last week. He was a strong supporter of the party's *Education After 18* policy document and envisaged few changes to it.

He is not short of close contacts in higher education. His wife Lisane is a lecturer at Brunel University and four of their five children are students.

Mr Radice himself was a student at Magdalen College, Oxford, but shares the reservations about Oxbridge expressed in the policy document. Mr Bennett is a graduate of Birmingham University and took a leading role in Labour's opposition to the 1980 Education Bill. Mr Sheerman, attended the LSE.

NUS campaigns for grants reform

by David Jobbins

A fresh assault on the system under which parents are expected to contribute to their children's higher education is being launched by the National Union of Students.

This week it produced new evidence that 47 per cent of parents failed to make up their children's grant to the level of the full award and that 12 per cent were falling short by £200 or more.

The union places much of the blame for its calculation that half Britain's full time higher education students are worse off than 16 and 17-year-olds on Youth Training Schemes on the shortcomings of the system and is seeking early talks with Sir Keith Joseph, Secretary of State for Education, on its proposals.

Total abolition would cost £180m but the limited NUS package, costed at £66m, includes an increase of more than 35 per cent in the parental contributions threshold from £7,100 to £9,600; reduction of the age of independence from 25 to 21; a move from residual to gross income to remove inbuilt discrimination in favour of parents with mortgages and against those in rented accommodation; and a cut in the years of self-support from three years to two, with unemployment and YTS experience counted as self-support.

NUS says: "The means test is a major cause of financial hardship among students whose parents cannot afford or are unwilling to pay their assessed contribution. Any system that effectively ties a student, financially, to her/his parents up to the age of 25 is, or should be, completely untenable."

A phased abolition is becoming more difficult, according to NUS, because parental contributions are rising faster than the main rate of grant.

Problems are apparently increasing despite the widespread use of covenants which ensure a regular flow of money to the students. The student income and expenditure survey carried out by NUS to underpin its grants submission, showed that 45 per cent of students were using covenants.

Other NUS demands for the 1984/85 grant are: A £30 a week allowance to be paid to all further education students; a £5 a week increase in the main rate of grant, currently about £55 a week outside London and £66 in the capital and action to end distinctions between dependent students, unmarried students, students with dependents not living with them, and students whose children are born during a course.

The survey that students were cutting back on almost every item of expenditure other than accommodation over which they had little control.

Even so many were not able to make ends meet on their grants, and Mr Neil Stewart, president of the NUS, gave banks the credit for helping students out with their cash flow problems. "Without their liberal attitude to students, the grants system would have collapsed," Mr Stewart said.

Mr Bob McLean, chairperson of NUS (Scotland), said he was particularly concerned about the distinction between Scottish further education grants for students over 18 and those under 18.

Grants to students over 18 were roughly equivalent to mandatory grants, ranging from an average of £1,000 in Tayside Region to £1,6000 in Central Region.

But grants for the under 18s were very much less, with an average £600 grant for a 40-week year, falling to £269 in Lothian Region and £330 in Fife. It was vital to abolish this age distinction, Mr McLean said.

Increase student awards by 22%, say v-cs

Ngaio Crequer

Vice chancellors have told the Government that the student grant should be increased by 22 per cent if it is to keep pace with rising costs.

In a letter delivered on Monday to Mr Peter Brooke, under-secretary of state for education, the Committee of Vice Chancellors and Principals says there is a clear case for the restoration of the real value of the main grant.

It says that in the last four years the proportion of the grant spent on board and lodging by students living outside London had increased from 62 to 70 per cent and there was "continuing deterioration" in the position.

Its latest annual survey of accommodation costs had shown that prices had increased by six per cent in this category and slightly more for those living in London.

"The amount students have left . . . to meet other essential items including books and equipment has not only decreased as a proportion of the total grant but over the last two years has decreased in real terms," it says.

The CVCP also says it wants a real improvement in the parental contribution area as the last increase mainly benefited those brought into the scale because of the decision to leave it unchanged in previous years. It is also concerned about the failure of some parents to make their full contribution and suggests helping to improve the provision of information and advice to parents.

According to the survey the grant for students living outside London should be £2,132 rather than the actual £1,660, an increase of 22.1 per cent. For London it should be £2,509 rather than £1,975, an increase of 21.3 per cent.

The survey shows that for all categories of accommodation outside London the average inclusive economic cost per student, the cost to the university of providing it, taking account of its deficit, was £1,242 this year, a 6.7 per cent increase on 1982/83. The average inclusive cost to the student, what he or she pays, was £1,200, an increase of 6 per cent.

Within these figures are differences according to the type of accommodation. For example, for self-catering accommodation owned by universities there was an 8.1 per cent increase to the university, and a 5.6 per cent increase to the student.

In London, for all categories, the cost to the institution has gone up by 8.9 per cent and to the student by 9.5 per cent. The worst figures are for those living in private flats where students have seen a 12.6 per cent rise in prices.

Poly building work halted

Birmingham City Council has called a four-year halt to virtually all capital developments at Birmingham Polytechnic, including a long-running building scheme to reduce the number of sites, and any minor works.

Both the polytechnic's academic board and governors have appealed to the city council to change the decision which came in its capital funding plans for 1983 to 1987.

During that period, the only capital money the polytechnic is now due to receive is an annual £105,000, agreed in a deal done during the last round of cuts in 1980/81.

According to the director, Mr Roy Hammond, the polytechnic had hoped for capital support in three areas: £1.2m for building the third phase of a central facilities building including library and computer centre; £1.5m over three years for expansion of computer facilities and improvement of other outdated equipment as part of the polytechnic's equipment strategy, and money for minor capital works.

Mr Hammond said he was "very surprised and concerned" at the decision on the central building in particular, since the city council had always supported the polytechnic's policy of reducing the number of sites in the past.

SYSTEMS DESIGNER/ANALYST
c £10,000 + CAR + BENEFITS
YOUR WORK WITH US COULD BE QUITE AN EDUCATION

At DRS Data & Research Services we specialise in data entry techniques which by-pass traditional transcription processes. It's a rapidly expanding business. DRS has grown by about 30% for each of the last four years.

A major contributor to that success — our optical scanning systems division — is now looking for a systems designer/analyst.

Applications for optical scanning techniques are numerous. Educational institutions and examination bodies continue to be heavy users, but we are still only scratching the surface. Each new customer will present you with a new project. You will work closely with both customers and other members of a strong DRS team, before and after a sale. You will also contribute to the development of new products.

ON THE TECHNICAL SIDE, DRS OFFERS:
● Full range of DEC equipment, including six PDP 11/24, 11/44 and 11/60 computers with ethernet networking. ● FORTRAN, BASIC AND PASCAL. ● In-depth software and engineering back-up.

ON THE PERSONAL SIDE, YOU WILL FIND:
● Flexible working hours. ● Supportive, enthusiastic and highly skilled colleagues. ● Scope for initiative. ● Regular pay reviews. ● High expectations of your input.

DRS employs just under 100 people and will soon be moving into our own prestigious and purpose built premises in the expanding and technology-orientated New City of Milton Keynes, with its easy rail, air and road links, reasonably priced and varied housing and superb shopping/sport facilities.

For further details telephone Diana Gankelaar for a confidential chat, or write, including your CV to:

DRS Data & Research Services Ltd
14-16 Burners Lane, Kiln Farm Industrial Estate,
Milton Keynes MK11 3HB
Tel: 0908 567114
Data & Research Services Limited

Double first

One and one made a double first at Strathclyde University's graduation ceremony when husband and wife Peter and Sarah Schiavone were each awarded a first class honours degree in maths.

The couple, who married this summer, were joint winners of the university's Sir Hermann Bondi prize for originality and excellence in mathematics. Sarah also won the Kelvin Prize and Peter won the Walter Brown Prize for outstanding academic merit. Sarah and Peter are now both employed by Smith Industries, the aircraft instrumentation manufacturers in Cheltenham.

Cambridge drops Iranian

by Paul Flather

Iranian studies was removed last we from the list of subjects off by Cambridge after a final fierce ba which provoked more than 500 u versity dons to cast their votes on issue.

Amid accusations and denials "flagrant contempt", "irresponsib ity", and "panic", dons voted by 41 131 to uphold proposals to abol eight lectureships in the faculty oriental studies – including one Iranian studies – and replace the ch in Sanskrit with an ordinary le tureship.

The proposals, from a joint Oxfo and Cambridge working party, we first put forward by the univers general board in March. Persian an Turkish are now to be concentrated Oxford, and Iranian studies disappe from Cambridge after some 35 year

Critics of the package put ou fly-sheet before last week's vote urg fellow dons not to be apathetic o gullible and swallow "the poiso proferred by the university's governi body.

They objected on three grounds that the university as a place o "encyclopaedic knowledge" would b affected adversely; that the tactics the governing body were "deplo able"; and that a 1981 vote to les Iranian studies was being "emascu lated" just two years on.

Supporters immediately issued the own fly-sheet denying the charges, a pointing out that the faculty w reluctantly agreeing to a "realistic" per cent cut in teaching posts to allo oriental studies to become more scie in the future.

Dr Malcolm Lyons, chairman of the faculty, said the proposals we obviously painful. "But if they had n gone through the faculty would n have been able to say with any assur ance what it could provide in futur years."

The faculty feels it must take its fa share of cuts being imposed throug out the university, particularly a oriental studies attract fewer studen than other subjects.

Dr Ilya Gershevitch, who retire from the Iranian studies lectureship last year after 34 years in the pos described the decision as very sad. " will lead to a very regrettable drop i the standards of coverage of oriental studies in Cambridge."

The issue clearly roused strong fee ings, resulting in the high turn-out. Bu many dons feel the vote was also see as an issue of principle both in terms o the authority of the general board, an spreading the recent cuts.

The decision is also bound to fu general fears about the future prov sion of "scarce" languages in univer ties. Cambridge was the only plac offering separate courses in Iranian studies at undergraduate level. The School of Oriental and African Studies in London offers it at postgraduate level, while Durham, Edinburgh, London, Oxford, and Cambridge, offe Persian.

The University Grants Committee is still considering whether to support an inquiry into how "scarce" language provision in universities has fared during recent cuts.

Research spending increases

New research and development statistics from the Department of Trade and Industry show that the academic world's contribution to basic research is more important than generally realized.

The 1981 survey of industrial research spending, to be published in the next few weeks shows that total spending by firms has increased slightly in real terms between 1978 and 1981, to a figure of £3,500m. On the surface this dwarfs the £600m or so spent by research councils and the University Grants Committee on university research, and this sum looks still smaller when compared with the national, government and industrial spending of £5,800m in 1981.

But more detailed breakdowns show that a mere 3 per cent, only just over £100m, of the industrial money goes on basic research. Despite increased recognition of the importance of basic research to long-term economic prospects, many firms still spend nothing at all on basic work.

Even applied research only took 20 per cent of the industrial money and the proportion actually fell between 1978 and 1981. The growth in firms' spending was almost wholly confined to development.

The figures reinforce the argument that the universities are the main force in basic research in Britain, and explain why some companies are unhappy about shifts in government policy which tend to encourage more short-term applied work in academic laboratories. Firms like GEC want the universities to concentrate on basic research to keep generating the new ideas they are then prepared to back with development money.

They fear that the emphasis on "technology-transfer" from colleges to industry in reports like the recent paper from the Advisory Council for Applied Research and Development could help smaller firms at the expense of the large concerns which can make economically important applications of innovation.

Language inquiry head is named

by Paul Flather

Miss Sheila Browne, former senior chief inspector at the Department of Education and Science, is to head the first ever national inquiry into modern language provision in further and higher education.

The appointment of Miss Browne, a former languages lecturer, now principal of Newnham College, Cambridge, will give the inquiry the gravitas sought by the Nuffield Foundation, which expects to spend at least £50,000 over two years in support of the project.

The inquiry, due to start in January, is likely to have three major elements: a survey of what is available post-16 in colleges, polytechnics, and universities; a discussion of what language teaching should aim for at its various levels; and an assessment of student competence involving graduate testing.

The terms of reference just agreed by the Nuffield trustees also cover the relationship between different levels of competence, the appropriateness of language training for probable uses including language teaching, and the appropriateness of current teaching methods and modes.

Miss Browne will be supported by an advisory team of five language experts and a full-time research assistant. She was university lecturer in French and fellow of St Hilda's, Oxford, from 1951–61.

The inquiry comes at a time of general disquiet about language teaching in Britain, notably expressed by the National Council of Modern Languages and the Standing Conference of Heads of Modern Languages in Polytechnics and Colleges.

The Committee of Vice-Chancellors and Principals has also just voiced its worries about the declining A level entry in languages and the "catastrophically low" number of school leavers studying languages other than French.

In its response to the DES consultative paper on foreign languages in the school curriculum, the CVCP says that it is now "not only essential but urgent" that there is effective government action to produce coordinated provision to give able young people the language skills they need.

The CVCP advocates reforms linking the A level more closely to fluency in speech and writing, and introducing a new Intermediate level for those specializing in other subjects. Both ideas are bound to come within the scope of the Nuffield inquiry which will look at links between secondary and tertiary education in general.

The CVCP goes on to attack the "defeatism" of the DES paper that only one foreign language can be provided in schools. The predominance of French in schools is bound to an important issue for the inquiry.

Loan plan blocked by unions

by Felicity Jones

Union opposition to the Manpower Services Commission's proposed loan scheme contained in its adult training strategy and the lack of any new available money blocked any effective decision being taken at the commission meeting last week.

Mr David Young, MSC chairman said following the meeting that the debate had been lively and the unions wanted further discussions over the financial proposals before taking any decision. He commented that the commissioners advanced the view that the implication of the strategy were even more significant than the Youth Training Scheme.

The pilot loan scheme, as revealed in last week's *THES*, came unexpectedly to those who thought the MSC had abandoned any idea of student loans.

The paper presented by the MSC's director of occupational training proposes a £15m loan guarantee scheme in 1984/5 by which the MSC would underwrite a bank loan for fees of people studying in their own time or who wish to leave employment to be retrained. The amount guaranteed would rise to £100m the following year if successful.

The MSC would rather underwrite bank loans than lend the money itself as this would hold down administrative costs

The National Association of Teachers in Further and Higher Education rejects the loan proposal. Mr Mick Farley, assistant secretary said: "We are alarmed at the loan proposal not least because it would set a dangerous precedent. Once loans are introduced into the area of adult retraining this would open the door to the concept of loans for students in higher education."

Some of the proposals linked to recruitment and training packages to help the unemployed are generally welcomed by the unions but they remain unhappy about the halving of money to the Training Opportunities Scheme, rejecting the MSC's view that training is wasted in areas of high unemployment.

The MSC proposes that the money currently spent on "unproductive occupational training" under TOPS would be redirected in two ways: into a industry-focused programme of job-related training aimed at known employment needs and to a programme to help unemployed people improve their foundation skills.

American sandwich-makers extraordinary, Peter Lacey and Richard Haynes, are unemployed graduates in history and international relations respectively from Keele University. They have set up a booming business, "Swifts" with the help of the Government enterprise allowance. Using "Tebbit-style transport" to deliver American sandwiches to offices in the Gray's Inn Road area of London, the two graduates bring in about £400.

Colleges consider merger

by Karen Gold

Merger discussions are being held between London University's Westfield College and the Central School of Speech and Drama, as part of the Inner London Education Authority's review of advanced further education.

The link was not included in the *ILEA* consultative document which proposed a number of changes to London's higher education earlier this month. But working parties with members from Westfield and Central have been looking at options for some time, ranging from extending their collaboration on an existing joint undergraduate degree to a full-scale move of Central on to the nearby Westfield site.

Some Central School teaching is already done there because of the college's space shortage and some Westfield residential accommodation is also used by Central students.

The Council for National Academic Awards has also warned Central that its lack of space could jeopardize its validation.

Mr George Kitson, the college principal, stressed that Central, originally established by eminent theatre people but now run by the ILEA, would not simply become part of Westfield. "Central School has an international reputation. If any arrangement were made, it would certainly not reduce the identity of Central School," he said.

Westfield's governors have discussed the proposals and encouraged the college to pursue them with the ILEA and Central. Small working groups are currently looking at how funding and the college government would be affected, since the ILEA is known to want to retrain a say in the running of any of its institutions which merge.

Westfield will soon lose over a third of its students through the London. University reorganization which is removing most of its science provision. Although there are discussions with other London colleges about filling some of the space, nothing would do so as extensively as Central.

Principal vouches for economic fees

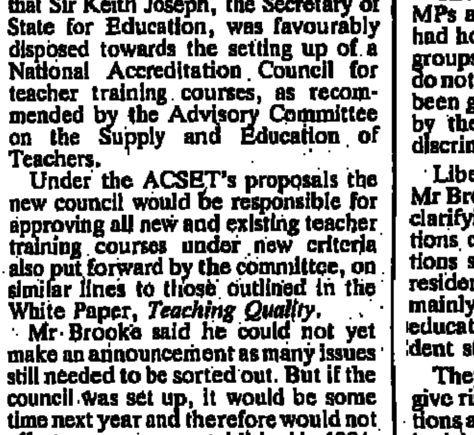
Universities could only increase their intake if students began to pay for their education, Dr Graham Hills, principal of Strathclyde University, told a "town and gown" seminar this week.

This is the first time that Dr Hills has made a public statement of his views on university funding. Earlier this year, he was one of six vice chancellors who met Sir Keith Joseph, the Secretary of State for Education and Science, to discuss lessening their dependence on central government funding.

The Government had made it clear that public expenditure limits would not be exceeded, said Dr Hills in his address on "Britain's educational future".

"If more young people are to enjoy the benefits of education, the question I would like to put is who is to pay. The easy answer is someone else. The honest answer is those who benefit, those already in the lifeboat."

Dr Hills argued that a system of vouchers should be introduced. Everyone would be entitled to them, they would be issued by the Department of Education and Science and would initially cover both economic fees and maintenance.



"THAT'S THE THIRD POLYTECHNIC BURSAR I'VE SEEN TODAY...."

New council announced

The Government announced this week that a Voluntary Sector Consultative Council will be established on the lines agreed this summer between the Association of Voluntary Colleges and the National Advisory Body.

Mr Peter Brooke, under-secretary of state for higher education told a meeting of the AVC that detailed discussion of the council's terms of reference and its comosition could now go ahead.

The new council's role is expected to be the "enabling link" to bring the voluntary colleges properly under the remit of the NAB. The colleges agreed to come under the NAB's umbrella in July but are not participating in the current planning exercise.

Mr Brooke also told the meeting that Sir Keith Joseph, the Secretary of State for Education, was favourably disposed towards the setting up of a National Accreditation Council for teacher training courses, as recommended by the Advisory Committee on the Supply and Education of Teachers.

Under the ACSET's proposals the new council would be responsible for approving all new and existing teacher training courses under new criteria also put forward by the committee, on similar lines to those outlined in the White Paper, *Teaching Quality*.

Mr Brooke said he could not yet make an announcement as many issues still needed to be sorted out. But if the council was set up, it would be some time next year and therefore would not affect new courses established in 1984.

If established the council would hope to complete its review of courses within four years. He added that the department favoured peer group validation.

Rumpus over refugees

Opposition MPs are furious at the Government's reasons for refusing to implement a pre-election pledge to extend home student status to Polish and Iranian refugees.

Mr Alan Beith, the Liberal Chief Whip, described as "outrageous" the explanation given in the Commons this week by Mr Peter Brooke, under-secretary for higher education for the failure to include students granted exceptional leave to stay in the UK among groups entitled to home fee status.

Mr Brooke told MPs that when his predecessor, Mr William Waldegrave, accepted the principle of an amendment tabled by Mr Beith last May, its purpose had not been appreciated.

The concession which Opposition MPs and overseas student aid groups had hoped for would have meant that groups such as Poles and Iranians, who do not have full refugee status but have been granted exceptional leave to stay by the Home Office, would not be discriminated against.

Liberal MPs were also angered by Mr Brooke's refusal to issue guidelines clarifying the fees and awards regulations covering residence. The regulations say that people who have been resident for three years wholly or mainly for the purpose of full-time education are ineligible for home student status.

They fear that the regulations will give rise to anomalies between institutions and authorities which they hoped had been brought to an end by last year's House of Lords judgment. But Mr Brooke did promise MPs a continuing review of the refugee status, which is being conducted by the Home Office.

Sacred cows threatened by UGC debate

continued from front page

programme) that 1¼ per cent was the minimum acceptable.

Therefore, the letter asks if universities would favour a continuation of the "new blood" scheme, what are its disadvantages and how can they be overcome? What other ways are there of overcoming this problem?

But, the letter says, between 1990 and 1994 the situation is even more serious. Only half the necessary reduction in staff could be obtained by normal retirement, and Sir Keith will not fund another redundancy programme.

So, should staff retire at 60, with some going on longer but not having tenure (this would require legislation)? Should tenure be the same in all universities? If not, what would be the long-term consequences?

In its section on 'dependence on public funds' the letter asks "Should your university be more free of UGC or DES control? On the nature of universities, is there an essential difference in function between universities and other institutions or should it be regarded as a continuous spectrum?

Other questions include: Should there be more diversity among universities in specialities, type of student, style and research involvement? On validation, what is your experience of accreditation by professional bodies and what are your views on other systems of university validation?

On courses, should there be broader education for school-leavers, or should there be a broader sixth-form just for those who preferred it. If so would you change your admissions criteria not to put such students at a disadvantage?

Would you favour a sequence of two year modules? Or something along Scottish lines, a two year general degree, and a three year honours degree? And what about lengthening the academic year to do it?

Finally, a question directed just at vice chancellors. Comment on the nature and role of the UGC. Should there be a single national body over some or all of the UGC, NAB, the Welsh Advisory Body? Should there be more centralized coordination?

Damages for ecology student

A student who will be a paraplegic for life following a field study accident has been awarded £112,400 damages from Edinburgh University.

Mr David Tuttle was suing for £200,000 in the Court of Session in Edinburgh, claiming that his supervisor had not taken reasonable care for his safety when he was on a forestry course during the final year of an ecological science degree.

He had been climbing larch trees to measure them, and fell when a branch broke as he was crossing from one tree to another. The university claimed that the supervisor could not have foreseen that Mr Tuttle would try to cross to another tree, but Lord McDonald said there was a possibility an adventurous youth might do this. The accident could have been prevented had recognized safety equipment been provided.

But Lord McDonald also held that Mr Tuttle had been foolhardy, and therefore reduced the damages, which he assessed at £140,500, by 20 per cent.

The university has said there is the deepest regret that the accident happened at all. It will try to ensure that there is never a similar incident, and there has been a full review.

Delay may lead to lack of ESPRIT

by Jon Turney
Science correspondent

The European Community's £400m information technology research programme, scheduled to begin in earnest next year, was unexpectedly called into question at a meeting of research ministers last week.

Both Britain and Germany insisted that the EEC's wider budget problems must be solved before making such a large new commitment. And the French research minister, M. Jean Auroux, raised a more basic objection to the project, asking if it reflected Europe's most urgent research priorities.

The programme, known as ESPRIT for European Strategic Programme for Research in Information Technology, is intended to raise community spending on research in the field to unprecedented levels, in order to sustain industrial competitiveness.

The plans, shaped by the head of the European Commission's research directorate, Viscount Etienne D'Avignon, have been approved in principle by all the contributing countries and pilot projects went ahead this year.

Approval for the main phase of ESPRIT was expected at last week's meeting, but Britain's representative Mr David Trippier, under-secretary in the Department of Trade and Industry and his German opposite number withheld their endorsement.

The EEC's wider budget crunch, caused by the spiralling cost of agricultural subsidies, will be discussed at a European summit meeting in Athens next month and both countries are anxious to keep up pressure to find a way out.

The French intervention is more puzzling, and was still causing head-scratching among commission officials this week. The French have been enthusiastic, supporters of ESPRIT since it began two years ago and M. Fabius spoke warmly of the programme only a few weeks ago.

But he tabled a motion at the meeting calling for a reexamination of the programme in the light of other areas where support for collaborative projects might be needed.

It is not clear whether this indicates a serious reservation about ESPRIT or a political move to keep other research issues on the agenda.

None of the other national representatives present backed the French motion and the ministers agreed to an unscheduled meeting next week to try to resolve their differences. However, final agreement now looks unlikely before December.

The delay is important for Britain because research planners are anxious to select projects for the UK's domestic project in advanced information technology – the Alvey programme – to fit in with ESPRIT, and Alvey is already getting under way.

Fury over SouthBank technopark

by Karen Gold

The deadline for South Ba Polytechnic's Technopark contrac was due to pass without a signing tod amid furious allegations that vi information about the developmen has been concealed by members of Southwark Borough Council.

The allegations made by forme Inner London Education Authori chairman Mrs Ann Ward, a Southwar Labour councillor, were that a grou within the Southwark Labour majori opposed to the £4.5m Technopar scheme had:

● Failed to discuss the scheme at a open planning committee;
● Discussed it in a confidential planning committee meeting of which the Polytechnic's ward councillors and the ILEA representative were not informed;
● Failed to tell the Labour group of two letters from the Prudential Assurance Company, which is funding the Technopark, giving vital assurances.

The Technopark "was never properly discussed in Southwark", Mrs Ward alleged. "It was kept away from members".

The controversy over the scheme, first given outline planning permission by Southwark in March 1982, now seems likely to split the party. Following the decision by the Labour group to oppose the sale of land owned by Southwark to the Prudential by today, after which planning permission given by the Government on appeal becomes invalid, the borough council voted last week in effect to block the sale. (It says Southwark should refuse to sell unless the Prudential agrees to build both phases of the Technopark: the Prudential and the polytechnic are not prepared to start phase two until phase one is a proven success.)

But 24 members of the Labour group, including the deputy leader, chief whip and five committee chairmen, have signed a letter to the whole group saying that not enough time or information has been given to them to decide on the Technopark, and they now support it. The matter will be debated again in the Labour group next week.

The Prudential is taking legal advice on whether to take Southwark to the High Court for blocking the scheme, which is intended to link polytechnic expertise with new technology small business on a site adjacent to the polytechnic. The polytechnic says in the short term it should create about 300 jobs, but as the businesses grow and move out of the building that might increase to 3,000.

But the council argues that the land was originally zoned for housing, which is the policy in north Southwark, and says that although it supports the Technopark in principle it should be on another site.

Councillor Alan Davis, leader of Southwark, said that the council's position remained the same: it would support the Technopark if the polytechnic were more flexible about it. "They have refused to negotiate with us" he said. "I sat around the table with them when they walked out. We are always prepared to negotiate about more flexible use of the site."

The Council had taken legal opinion which said it was on very good ground, he said.

Protest at proposed extension

by Patricia Santinelli

University departments of education are seeking a meeting with the secretary of state to protest at the proposed extension of postgraduate training courses.

The University Council for the Education of Teachers which represents the departments has written to Sir Keith Joseph to point out that an extension of the Post Graduate Certificate of Education to 36 weeks has major resource implications which have not been thought out.

The extension of PGCE courses was recommended to Sir Keith by the Advisory Committee for the Supply and Education of Teachers this summer as part of a package of measures to improve the quality of teacher training. As yet Sir Keith has not announced any decisions.

UCET is particularly concerned to discuss the extension before Sir Keith does make an announcement as university PGCE courses only average 30 to 32 weeks, while Oxford and Cambridge Universities run 24-week courses. The extension would not affect public sector institutions which already run courses averaging 36 weeks.

The council has told Sir Keith that it is keen to improve both PGCE courses and the quality of teacher training generally, but that it does not believe extending courses is the right way or that it would be easy to do so.

It pointed out that it had already objected to a 44-week PGCE because extending courses, contrary to the Department of Education and Science's belief, is not simply a matter of slotting in more course hours for students.

The council has stressed that no consideration has been given to the fact that education departments do not only run PGCE courses, and that to up the hours or weeks would mean extra permanent and temporary staff. An extension would also eat into valuable research time which UCET argues is a necessary underpinning to teacher training courses.

Demo turns to violence at Warwick

A demonstration by students at Warwick University this week turned into a pitched battle with the police when Sir Keith Joseph, Secretary of State for Education, visited to launch the Coventry professional industrial and commercial updating consortium.

The students' union with other staff at the university had organized a campaign centred upon the government's continuing education policy, cuts in further education and the future of higher education over the next decade.

The students' union president Richard Jones met with Sir Keith early in the day and presented a letter about the PICKUP initiative and a petition.

The letter called for a permanent agency to replace the Advisory Council for Adult and Continuing Education and expressed concern about the basic premises underlying PICKUP that courses will be self-financing through full-cost fees.

It asked the Government to review the level of financial support being allocated and advocate that an element should be included within the University Grants Committee recurrent grant for continuing education.

The Coventry consortium includes the university, polytechnic and three colleges and is designed to provide specific training packages for business companies and other employers through a single "shopfront".

The official protest went according to plan until students clashed with the secretary of state at the Westwood site training centre.

Eggs were thrown at the cars carrying Sir Keith and the Labour Mayor of Coventry and the heavy police contingent was jostled and pushed with one student arrested.

Students plan day of action

Varying forms of action in at least 100 colleges is expected by student leaders for next week's day of action to highlight the impact of Government policies on public sector higher education.

Occupations are planned for a number of colleges including the Polytechnic of Central London, Wolverhampton Polytechnic, Ravensbourne College of Art and Newcastle Polytechnic, where it is being described as a "work-in".

Marches and similar activities are scheduled for Oxford, Manchester, Leeds and Birmingham, while the week begins with a picket outside Goldsmiths' College, London, during a visit by Mr Peter Brooke, under-secretary of state for higher education and chairman of the National Advisory Body.

Demonstrations are also expected in Kent and on Merseyside, where students regard their action as a prelude to trades council-organized day of action in defence of the public sector on November 12.

Lecturers at Oxford Polytechnic have called for a one-day stoppage in support of the students. The Headington branch of the National Association of Teachers in Further and Higher Education is seeking official authorization.

Teesside appears to be the only polytechnic where students are not planning any form of opposition to the NAB proposals, according to the NUS.

'Uncontrolled' policy attacked

The Association of University Teachers in Scotland has attacked the Government's "lunatic lack of planning and uncontrolled lurches in policy".

A statement from the executive committee of AUT(S) says that reaction is one of "headshaking disbelief" that Dundee and Heriot-Watt universities were fined for taking too many students "and then within the same year asked 'how many more can you manage?'"

Fellow reinstated

Fellows of Peterhouse, Cambridge University, last week voted to reinstate Dr Hallard Croft director of studies in mathematics, as a college fellow. But he is to lose more than 20 years of seniority and will have to take the college oath again. Dr Croft failed to be reelected last term when his name was removed from the reelection list following a strongly-worded letter to Lord Dacre, master of Peterhouse.

Little change

The first chancellor of the Ulster polyversity is to be the Rt Hon Lord Grey of Haunton, chancellor of the New University of Ulster since 1980.

OU produces video pack

The first in a series of packs on the training of adult educators which includes video material has been produced by the Open University's centre for continuing education.

The resource pack, *Learning about the Learners* is directed at those with little or no previous experience in training and staff development and is concerned with the expectations which adults bring to learning and the responses which are made by institutions and teachers when attempting to meet them.

In line with the recommendations of the second report of the Advisory Committee on the Supply and Education of Teachers (ACSET) the pack provides a set of video-led resource materials. The two videos make use of sequences shot in all the participating countries but the written work is individually designed to the needs of each country.

THE COLLEGE OF PRECEPTORS
Incorporated by Royal Charter 28th March 1849
invites applications from those engaged in education for
TWO NEW CLASSES OF MEMBERSHIP
Member (MCollP): to recognise good professional practice in a tangible way.
Ordinary Fellow (FCollP): the senior Class of College Membership reserved for those who have made an outstanding contribution to education.
The College of Preceptors is an Examining Body and a Teachers' Society which has Members throughout the world.
For a copy of the Membership Guide, please contact:
Chief Administrative Officer
The College of Preceptors
7 Ridgmount Street
London WC1E 7AE
Tel: 01-636 0796

Ministers back down over YTS political content

Ministers have given in to pressure and grudgingly agreed to the removal of a controversial passage in a memo on the political content of the off-the-job training and education in Youth Training Schemes.

A new draft memo prepared by the Manpower Services Commission and endorsed by commissioners, no longer says that "matters relating to the organization and functioning of society should be excluded unless relevant to trainees".

This passage, which was contained in a previous memo written by the MSC at the specific request of Mr Peter Morrison, employment minister, led to strong protests from the majority of Youth Training Board members. Members adamantly opposed any attempt to interfere with what they described as justifiable educational element in the schemes.

However, the memo which is to form the basis of guidance to MSC staff and off the job trainers remains substantially unchanged and may lead to future problems on the schemes.

For example, in its advice to off-the-job trainers, it points out that the propagation of political opinions is not permitted, and that sponsors failing to observe this guidance will be in breach of agreement which could result in the closure of [illegible]

Nor does the [illegible] subject of political activity. It clearly states that political and related activities are not permissible and will result in the immediate closure of any scheme.

It continues to ban any action in support of a political party, or the organization of or participation in marches or demonstration of any kind. This ban may put YTS trainees who join the National Union of Students for example in an untenable position.

Other bans involve any action to intervene in industrial disputes and the printing, distribution of posters, leaflets, magazines, booklets or other written material with any political or [illegible] controversial material.

● A major shortfall in the number of anticipated entrants to YTS Mod B schemes largely run by colleges is revealed by the latest figures released by the MSC. The total number of entrants is only 16,699 compared to a target of 55,200 places of which 32,000 have been approved.

● Exeter College in Devon faces bankruptcy by March as a result of financial savings it has been asked to make and a deficit caused by running the Youth Training Scheme.

A special meeting of the county education committee has been called to discuss how funds can be provided to meet the financial burden facing the college, estimated at £254,000.

New call for paid study leave

The University Council for Adult and Continuing Education's working party on education and older adults has recommended that renewed pressure should be placed on the Government to introduce a scheme for paid educational leave.

The working party's report says that the old model of pre-retirement education is inappropriate in the current context of mass unemployment, redundancy, early and phased requirement.

"Attitudes to retirement, in the early stages of the pre-retirement movement, saw retirement as a period of inevitable decline. This approach is no longer acceptable," says the report. It adds that educational provision should replace this trend.

Dr Frank Glendenning of Keele University, the converner of the working group, said that pre-retirement education should be available at any time and not just at the end of working life. It "should be seen as a legitimate part of educational leave".

The Government has still to ratify the 1974 ILO Convention which said that pre-retirement education had a legitimate claim on paid educational leave.

A similar proposal has been drawn up in the draft manifesto of the Forum on the Rights of Elderly People to Education which is in the process of being considered by members before the final draft is finalized for discussion with ministers and the Department of Education and Science.

The draft urges that the Government should provide £1m "pump-priming" money over three years to assist the development of schemes for the education of older people and to finance research into their learning aptitudes and specific educational needs.

Certain staff members in extra-mural departments, the Workers' Educational Association and colleges of further education should be designated as having responsibility for the development of education for older adults and access to educational institutions should be actively encouraged.

Distance learning and other new modes of learning should be actively promoted particularly for the house-bound and those in residential institutions, the draft says.

Scottish MSC chairman quits

Lady Elizabeth Carnegy, chairman of the Manpower Services Committee in Scotland, has said she does not wish her appointment to be renewed when it expires this month. She has been chairman for three years.

It is being stressed that there is no link between Lady Carnegy's decision and claims last month that she had had to pay a large sum to the Inland Revenue in back taxes.

Lady Carnegy has issued a statement saying that when she was contacted by the Inland Revenue: "I immediately did as they asked and had all the figures crosschecked by another firm of chartered accountants. Anything that was wrong was put right."

Simple claim recommended

by David Jobbins

A simple claim for a percentage salary rise and just one structural demand – automatic transfer from the lowest salary grade – is being recommended to college lecturers by their leaders.

No exact figure is being placed yet on the draft claim drawn up at the weekend by the executive of the National Association of Teachers in Further and Higher Education. That will not be decided until a special conference considers the final shape of the pay package in February.

But leaders have suggested that the aim should be to keep the claim simple and designed to maintain living standards and "move towards" reestablishing external relativities – especially catching up with university salaries.

As a matter of urgency they have extracted the longstanding demand for full proportional rates of pay and conditions of service from the Burnham further education committee negotiations. Instead it will be pursued through the national joint council on conditions of service and the union is demanding an early meeting.

In pressing for a straight percentage claim union leaders were conscious that limited room for manoeuvre, with ministers effectively fixing a 3 per cent norm for the whole of the public sector, would make it difficult to achieve the mixed flat rate and percentage settlements of the past two years.

Officials calculate that a 16 per cent increase would be needed to match the estimated increase in the retail price index between 1980 and 1981, and efforts are in hand to convince members of local education authorities of the extent to which living standards are being eroded and the acute stage the problem of lecturers stuck at the top of the lowest salary scale is becoming.

They are in no doubt over the intractable opposition of the local authority employers to automatic transfer from the Lecturer 1 grade to Lecturer 2, but hope to convince employers locally that this step offers the only hope of a proper career structure for the further education service.

University unions are maintaining a common front against anticipated attempts by the vice chancellors to hold pay increases to 3 per cent.

Unions representing clerical, technical, manual and academic staff are to decide on the common elements of the 1984 pay claim early in December. White collar staff represented by the National and Local Government Officers' Association meet next week to draw up their strategy in advance of that meeting, and are expected to agree on proposals designed to arrest the decline in their relative salaries since the 1981 comparability award and the 1982 arbitration.

Union negotiators reckon that a 10 per cent claim would restore earnings to the 1982 level and allow the settlement date to be brought back from July 1 to April 1 in line with all other campus unions. If the claim was for the full 12 months 13 to 15 per cent would be reasonable, the union believes.

Nalgo and the National Union of Public Employees, which represents most university manual workers, are likely to push the issue of low pay at the December 9 discussions.

Dr Quayle (left) and Dr Williamson in front of Durham University and Cathedral: working in the community.

Durham recruits the locals

by Paul Flather

Lecturers from Durham University are involving community members and local groups in the joint study and research of local problems such as rural conservation, unemployment and technical change.

The adult and continuing education department have drawn in geographers, anthropologists, sociologists, historians, economists, botanists, engineers, zoologists and English teachers in their North East Local Studies Group.

The group will hold a one-day conference on December 2 on education and training issues examining if university and polytechnic courses run in the north-east are likely to meet future regional needs.

Dr Brendan Quayle, a research fellow and tutor in anthropology, one of the organizers, said: "Frankly we wanted to help break down the ivory tower image of the university and encourage people in the area to look more closely at the region's problems."

Dr Quayle and Dr Bill Williamson, a sociology lecturer, and another organizer, are both aware of the insular image sometimes projected by Durham, with its high public school intake and traditional collegiate system.

So far the group has run conferences on image, culture and action looking at local research methods and sources, on unemployment, on technical change, and most recently on the Northern Uplands, each resulting in a published booklet of papers.

Interest has come from the three north-east polytechnics, Newcastle, Sunderland, and Teesside, local trades unions, MPs, local authorities, and the Centre for Urban and Regional Development Studies at Newcastle University.

The success of the group is judged by the fact that the first three reports are now being reprinted after the first 200 copies sold out. The aim now is to create an independent local studies research centre, jointly backed by the university and local authorities.

"I think we feel we are bringing university researchers and the local community together in the study of real problems. That is surely very important," Dr Quayle said.

Reports from the Department of Adult and Continuing Education, 32 Old Elvet, Durham DH1 3TG

'Blind spot' criticized

National higher education planners have "an alarming blind spot" about the nature and contribution of polytechnics, former Sheffield City Polytechnic director Dr George Tolley said giving the annual Thames Polytechnic lecture.

A statement about higher education strategy from the National Advisory Body made only two references to polytechnics, one incorrect and the other in a statistical table, Dr Tolley, now director of the Manpower Services Commission's Open Tech Unit, said.

"It is possible to read that important statement by a singularly important and responsible body and to get no sense whatever of the nature of the significance of the communities where education takes place" he continued. "There is an alarming blind spot where there should be vision, a blind spot which allows, perhaps even ensures, a lack of recognition of the nature of a polytechnic."

The pressure on polytechnics from demand by students for places, and the requirements of increased cost effectiveness were almost impossible to balance "alongside the rigidities of external controls of one sort or another" he said.

Those pressures could lead to unadventurousness, increased rigidity in demands for A levels and providing degree rather than more flexible courses, and more central control just at the time when diversity should be encouraged.

Under pressure the polytechnics must assert their distinctiveness in three areas, he said: increasing access to higher education, extending the quality and extent of sub-degree work, and establishing, as a mainstream area, a more varied and credible provision for mature adults.

'No' to animal licences

by Ngaio Crequer

Universities have told the Home Office they would object to paying for licences for animal experiments as proposed in a Government White Paper.

The Committee of Vice Chancellors and Principals has written to the Home Office in response to the paper, *Scientific Procedures on Living Animals.* It says: "There would be a strong moral objection (to payment for personal or project licences) because the work carried out in universities on animals is intended to be of benefit to the whole community."

It also points out there would be extra and wasteful administrative effort involved, because it would amount to Government money being transferred from one department to another.

In general the CVCP supports the Government White Paper, particularly the crucial clause which tightens up regulations on pain and suffering.

It says a number of universities have questioned the need for individual student licences for scientific procedures, but "importance is attached to individuals bearing the responsibility for the procedures they carry out and it is recognized that the issue of individual licences is one way of ensuring this."

But it wants a much better appeals system should applications for licences be rejected. Initially appeals could be directed to the local inspector, then chief inspector and finally, in a matter of serious concern, to the Secretary of State.

A number of other concerns expressed by the universities could be allayed by careful drafting of the proposed legislation. Emotive words, they say, should be avoided in the legislation itself and in public statements and the drafting of statistics.

For example the CVCP refers to the familiar reference of large numbers of experiments taking place without anaesthetics. "Many of these experiments are nutritional and of course cause little or no discomfort to the animals concerned, but this is hardly apparent from the description from which the public at large could easily obtain the mistaken impression that painful procedures were taking place."

It has said that the legislation should exclude trivial and virtually painless procedures, but include reference to the import and export of animals.

● The CVCP has welcomed the Copyright Licensing Agency's proposals for an initial limited licensing scheme for one year, but says the scheme should include a few universities taking part as a whole, rather than all university libraries and a sample of departments. The CVCP has always rejected any scheme which sought to include single copying for private research or study. It says the trial scheme should relate to multiple copying only.

Campaign underlines duty to disabled

A national campaign to ensure that the Government and local authorities give handicapped youngsters their legal entitlement to further education was launched this week by seven organizations and endorsed by another 20.

The seven organizations include the National Association of Teachers in Further and Higher Education and the National Union of Teachers. As an immediate measure they called on the Secretary of State for Education to issue a circular to local education authorities.

The circular would remind l.e.a.s of their statutory duty under the 1944 Education Act to make full-time education up to the age of 19 available for any handicapped young person who wishes.

The organizations also include the Greater London Association for Disabled People, the Royal Society for Mentally Handicapped Children and Adults, the Royal Association for Disability and Rehabilitation, the Spastics Society and the National Bureau for Handicapped Students. In a joint statement they say that there is plentiful evidence of past and current discrimination against handicapped youngsters.

"There are many recorded cases of local education authorities either refusing access to individual youngsters or adopting policies which threaten to restrict access by removing existing provision," the joint statement says.

The statement points out that recent surveys have revealed not only the massive gaps in provision in many areas of the country, but also the frequency with which 16-year-old handicapped youngsters are denied their legal entitlement to continue their education in school or college.

"This is a legal and moral issue, as well as an educational one. The system is failing these young people, the majority of whom are leaving school at 16 because they are not encouraged to realize the value for them of extra study, and because the appropriate facilities are simply not available to cater for their special needs," the statement says.

As part of the campaign, the organizations will be pressing the Government for extra finance so that suitable courses, facilities and specialist teaching are available.

They will also be pressing local authorities to make greater efforts to encourage young people with special needs to stay on in education.

"At the moment handicapped youngsters are receiving substantially less further education than non-handicapped young people, although their need is much greater. This situation is grossly unjust. It is a waste of their abilities and denies them the right to make the maximum possible contribution as adult members of our society," the statement says.

THES
PEER REVIEW
The THES has undertaken two surveys to discover how academics in eight disciplines regard the standing of their subjects. The results, giving both teaching and research ranking in architecture, chemistry, civil engineering, economics, French, history, physics and politics, were published in the THES of 3.12.82 and 5.8.83. The two reports are now available in one six-page reprint (four pages of editorial matter) **price 50p.**
Inquiries should be addressed to
Frances Goddard, THES Peer Review
The Times Supplement
Priory House, St John's Lane, London EC1M 4BX.
The price includes postage and packing within the UK but not Red Star or hand delivery.

Academics enter national debate

from Carolyn Dempster
JOHANNESBURG

South Africa has been in the grip of a rising wave of referendum fever as white South Africans prepared to vote this week for or against the government's proposed new constitution.

The level and intensity of debate generated by the proposed constitution has been almost unprecedented. It seeks to embrace the coloured and Indian population groups for the first time in South Africa's political history, yet excludes the majority black population.

Academics, together with the politicians, prominent businessmen and newspaper editors, have been at the forefront of the publicly-aired fray.

They, more than any other professional group have climbed on to the commend bandwagon, arguing vociferously for or against the new constitution, spelling out in personalized newspaper columns why they are voting "yes" or "no" in the coming referendum. In in-depth analyses of the Constitution Bill, they have endeavoured to interpret the structure of the new legislation for the lay public.

Even before the mammoth 10-hour third reading of the Constitution Bill ended in parliament on September 9, altogether 96 academics from the multi-racial Correspondence University of South Africa had already pledged their support for the Bill.

At the Afrikaans-medium University of Stellenbosch, 176 lecturers and professors signed a declaration of support for the new constitution a week later. Not to be outdone, 202 academics at the University of Pretoria issued a joint statement backing the proposals on September 14, to counter the impression created by the "no vote" call of 54 of their colleagues.

In contrast, academics from the liberal English universities have maintained a relatively low profile, although it is the English vote which is expected to sway the results one way or the other.

From the outset, the yes/no referendum debate, waged in the media and through party political campaigns has been murky and multi-faceted.

While a "yes" vote will mean support for the ruling Nationalist Party's reform initiatives, it will also mean support for the constitutional entrenchment of ethnicity and the exclusion of South Africa's majority black population from a say in government.

On the other hand, a "no" vote is being advocated both by the liberal opposition Progressive Federal Party because the constitution does not go far enough, and by the right-wing Conservative and *Herstigte Nasionale* (re-formed national) parties, because it goes too far.

Among the alternatives mooted have been abstention or a spoilt paper. Political scientist and Stellenbosch academic, Professor Hermann Gilliomee aptly commented: "The proposed new constitution has won at least one distinction. It has produced the greatest confusion in our political history."

The National Union of South African Students (NUSAS), to ensure students voted "no" for the right (liberal) reasons, circulated a petition among the affiliate campuses of Cape Town, Rhodes, Durban, Pietermaritzburg and the Witwatersrand. By mid-October more than 14,000 student signatures had been collected.

The South African Union of Jewish Students has also condemned the proposals.

Only a week before the referendum, which took place last Wednesday there was still a significant proportion of voters who remained unconvinced and undecided. It was in the hope of wooing this group that the yes/no campaigns had been intensified.

Last week a pamphlet signed by seven leading South Africans, among them three prominent academics including Professor Philip Tobias, world-renowned palaeo-anthropologist and head of the Wits anatomy department, was circulated to 12,000 people urging them to reject the constitution and vote "no" in the referendum.

Dental school closed

from Jessica Kuper
LEI

The Dutch minister of education, Deetman, intends to go ahead with a plan to scrap the dental school at Utrecht University, in an attempt to save a third of the national budget for training dentists.

Dentistry may be studied at four universities in the country at present and there is a growing pool of unemployed dentists.

The minister originally intended to fuse the dentistry schools of the two Amsterdam universities with the dental school at Utrecht.

This plan was strongly opposed, particularly by the Free University of Amsterdam, which based its appeal on its special religious character. It is a Calvinist foundation, totally dependent on state funds, which has nevertheless retained its autonomy and has repeatedly demonstrated its political clout in the current crisis.

Mr Deetman, a minister drawn from the Christian Democratic Party, bowed to this pressure and decided instead to close the dental school in Utrecht. The two Amsterdam dental schools will run a single teaching programme, but will remain administratively independent.

Critics of this plan resent the fact that the Free University has got its way at the expense of Utrecht, a school with a fine reputation, which many prospective students have named as their first choice.

The Utrecht dental school recently moved to expensive new premises and has the most up-to-date facilities in the country.

Women outnumber men students

Students are being drafted into the Afghan armed forces

Higher education in Afghanistan is now in an almost total state of disarray, according to academics who have fled to Pakistan in the last few months. Eighty per cent of all teaching staff appointed before the Soviet invasion have, they claim, fled the country, and been replaced by young and inexperienced staff recruited on the basis of loyalty to the current regime.

According to Dr Mohammad Haider, the former rector of Kabul University, the teaching programme of the university has now been revised "on the Soviet model", while the country's second university, at Nangarhar, north-west of Jalalabad, is "no longer functional", while colleges in Herat and Kandahar "are paralysed".

A remarkable feature of the surviving courses of higher eucation is the heavy preponderance of women students. In some faculties (notably law) this is as high as 90 per cent. Dr Haider believes this is because so many young men have either fled abroad or joined the guerrillas. A former member of his staff, however, Professor Sayed Mohammad Yusof Elmi, who followed him over the border a few weeks later, has a different explanation: Students, he said, are being drafted into the armed forces, so that male recruitment at Kabul University is now only "nominal".

Such reports contrast strongly with the official Afghani media, which represents the Soviet-backed regime as a patron of learning and literacy. According to the official view, the presence of so many young women in higher education is the result of positive discrimination to undo the effects of the former "reactionary" Islamic traditions of the country.

Nangarhar University, it was announced recently, has been badly damaged by rebel "uncultured elements" but the lecture halls, administrative block and halls of residence were repaired in time for the new academic year.

Nevertheless, the country's higher educational facilities are clearly insufficient. Students are sent to the Soviet Union or other Eastern European countries to complete their studies. About 6,000 Afghanis are studying abroad in this way – while 120 have already obtained their degrees and 82 have graduated from technical colleges under the scheme.

The departure and return of these batches of students is made a gala occasion, and a special Association of Afghan Graduates from the USSR has been established.

Clampdown threat to lecturers

by David Jobbins

Left-wing university and college lecturers in West Germany face the sack and loss of pensions in a clampdown by right-wing parties on alleged subversives in the public service.

A policy document on internal security drawn up by the Christian Democrats, the largest party in the governing coalition, calls for a gradual escalation of the policy of *Berufsverbot* – the refusal to employ people in the public service because of their political affiliations or actions.

Evidence of its stepping up is already to be found in states where the Christian Democrats are in power. In Lower Saxony 22 teachers face dismissal because they stood as Communist Party candidates. Among them is a head teacher from Oldenburg, Matthias Schachtschneider, who according to the British National Campaign Against the Berfufsverbot, has associations with the town's university.

According to Gerhard von Schnehen, another 80 cases against teachers are in the pipeline, none of whom stood as Communist Party candidates, but who are nevertheless regarded as too progressive for the Christian Democrats.

Von Schnehen was sacked after publicly welcoming a court decision against a fellow teacher who had told pupils that the concentration camps never existed and that photographs of dead Jews had been faked by the Americans. Despite being convicted of incitement to racial hatred and other offences, the other teacher is still teaching while von Schnehen is unemployed without social secutiry or unemployment benefit.

In Bavaria a retired teacher who stood as a Communist has been deprived of his State pension.

Von Schnehen was this week in Britain appealing for international help against the *Berufsverbot* and was due to meet MPs to discuss the issue.

West Germany is unique in Western Europe in applying security screening to lecturers and teachers. Most other countries will only do so if the nature of the job demands absolute loyalty.

Budget signed into law

from E. Patrick McQuaid
CAMBRIDGE

It appears likely that for the first time in five years the United States will have labour, health, and education appropriations signed into law. These government programmes have been funded on a year-to-year and occasionally month-to-month basis, through continuing resolutions known as "stopgaps".

Fiscal 1984 education programmes have been sustained through such measures since October 1, the first day of the federal year. Most states set July 1 for budgeting their year.

Each chamber of the Congress has approved a $15,300m education budget for 1984. The figures were arrived at by a conference panel representing both the senate and the House. The proposed legislation now goes to the president for his signature, which is expected without further argument, according to congressional aides.

The Bill would increase student state scholarship (Pell) awards from last fiscal year's $2,400m to $2,800m and raise the maximum award from $1,800 to $1,900 per student. Also increased would be supplemental grants, from $355m to $370m, and state student incentive grants, from $60m to $76m.

Severely cut, however, would be the college work study programme, down $40m from last year's $590m, and the national direct student loans programme, budgeted at $161m as against $178.m last year.

Last year's total education appropriations were just over $15,422m. Mr Reagan requested a total appropriations package for this year of only $13,400m. The House requested a budget $1,000m below that, while the Senate recommended a $15,300m budget. The difference between the Senate version and the compromise Bill is about $8m.

Bottom of the heap

Anthropologists continue to account for the highest percentage of unemployed scholars in America, says the National Academy of Science. "Not only is this a highest percentage for all major fields, but the figure has shown a steady increase from the 12 per cent in 1972 and may not have reached a peak," reads the academy's annual survey of earned doctorates.

The report says that in 1982 over 40 per cent of anthropology doctorate recipients were still seeking appointments at the time the doctorate was completed. The study has been carried out annually since 1958 for the academy by the National Resource Council's office of scientific engineering and personnel.

The 333 doctorates in anthropology awarded between June and July 1982 were also the fewest number of PhDs for that field earned since 1972.

The only significant area of employment for anthropologists in the last 25 years has been in academe itself. That peaked in 1968 when 73 per cent reported that they were holding down [illegible] Only 28 per cent [illegible] could respond similarly in 1982.

Extra students must pay

from Lindsay Wright
WELLINGTON

New Zealand is planning to open university doors to students currently ineligible for admission in a move calculated to expand access for overseas students.

The change will allow universities with spare capacity to accept students from any country for undergraduate study.

This is not, however, a new mood of generosity in government circles. Students who become eligible to study in New Zealand will pay, according to the minister of education's announcement, fees of $4,670 (£2,075) a year for courses in arts, commerce and law and $7,000 (£3,111) a year in engineering and applied sciences.

New Zealand students and private overseas students from the South Pacific currently pay $208 (£92) a year. Private overseas students from countries in the Association of South East Asia Nations (ASEAN) pay $1,500 (£666) a year.

Mr Roger Tobin, of the New Zealand University Students Association said that the new cost-recovery fee [illegible] students would be able to afford [illegible] study in New Zealand.

"Most of the educational resources used by overseas students have already been provided to ensure an education is available to New Zealanders. There is only an additional marginal cost attributable to overseas student enrolments and we should happily provide that as part of our aid programme," he said.

Mr Rob Crozier, the Association of University Teachers' executive secretary, pointed out that since the $1,500 (£666) fee for ASEAN students was introduced in 1979 the number of full-time students from Malaysia had dropped from 2,072 to 1,116 and the quotas limit set for the admission of Malaysian students had not been filled.

Both the NZUSA and the AUT have opposed the $1,500 fee and Mr Crozier is convinced that the new scale of fees will mean, in reality, reduced interest rather than expanded access.

The new policy, like a series of other changes to policies on the admission of overseas students, was never discussed with the universities or student representatives. The general reaction is that [illegible]

Part-time numbers rise

Canada's total education bill for 1983 should top 30 billion dollars, says Statistics Canada. Last year, Canada's federal and provincial governments spent 28.9 billion dollars or 8.1% of the gross national product on all levels of education.

According to the federal government agency, spending on universities is expected to remain at about 20% of the total, increasing from 5.7 billion dollars in 1982 to six billion dollars this year.

Government statisticians also predict that total university enrolment in the country will increase by 2.8% to nearly 710,000 this year and will continue rising through 1985/86, as part-time enrolments increase [illegible]

German graduates 'too old'

from Barbara von Ow
MUNICH

West Germany's higher education system should be restructured to preserve its academic character in the face of a tide of students, according to a leading academic.

Professor Theodor Berchem, of Würzburg University, the new president of the West German Rectors Conference, outlined detailed proposals in a recent lecture for a reorganization of university degree courses.

The crux of his proposals is to shorten school and higher education while introducing a series of valid interim qualifications. This would enable students to qualify at a much younger age, easing the pressure on West Germany's beleaguered universities.

Rejecting predictions about a slump in the number of students after the 1980s, Professor Berchem said a series of political and social factors would continue to crowd universities despite a dramatic drop in West Germany's birthrate.

One was the growing "academization" of many professions, another the fact that education was continuously expanding. As a result, a quarter of every age group was now qualified to receive higher education.

According to official projections this figure would rise to 38% by 1995. While such forecasts were very speculative, there was little indication that this trend would revert, he claimed.

Consequently, the number of students would rise to 1.5 million by the end of the 1980s, of which one million would be at universities Professor Berchen noted. This "student mountain" was a formidable challenge which had to be tackled not by cosmetic changes but by a complete restructuring of the education system he underlined.

He proposed:

- cutting school to 12 years from presently 13, in line with other countries.
- transforming the thirteenth year into a "transitional year", preparing for broadly outlined areas such as natural science, philology and economics. As this would end with an exam, would-be students have gone through two selection procedures before entering university.
- limiting university degrees on principle to four years. They would be divided into basic and a main course of two years each. The first would lead to a qualification which, while not an equivalent to full professional training, would have an independent validity outside university, like a diploma or bachelor's degree. This would make it easier for students to bale out halfway without the "stigma of failure", Professor Berchem suggests.
- concluding the main course with a final exam after four years. Those who wanted to pursue their studies could go on to do a doctorate. It was far more important to provide good opportunities for postgraduates than to keep undergraduates at university for too long, Professor Berchem stressed.

University degrees in West Germany took an average of at least 11 semesters, he noted. In practice graduates studied even longer (an average of 13 semesters compared to 12 some years ago), partly due to gloomier job prospects. Considering that young people pass their *abitur* at 19, they were "far too old" by the time they started their first job, Professor Berchem said.

Archive release finds an echo in Grenada

from E. Patrick McQuaid
CAMBRIDGE

Nearly 21 years to the day that President John F. Kennedy considered invading Cuba to prevent the deploying of Soviet warheads 90 miles off the Florida coast, the government archivesi released tapes and transcripts of those secret cabinet meetings.

While the disclosures were timed to coincide with the anniversary of Moscow's decision to acquiesce and not run the American naval blockade, few scholars have passed up the opportunity to draw comparisons with President Reagan's more recent Caribbean adventures.

Back on American soil, students from St. George's University School of Medicine gave mixed accounts of the situation on Grenada. The school's chancellor, Mr Charles Modica, first said that the only danger students faced on the island was posed by invading forces, but after a confidential State Department briefing changed his position. Mr Modica was in the United States recruiting new students at the time of the attack.

St George's is the oldest of four medical colleges established in the Caribbean primarily for American students who are turned down by schools in the US. Mr Modica, a lawyer who was denied admission to medical school, founded the Grenada college in 1977 with the financial backing of several wealthy American doctors.

These colleges are not accredited by US agencies and graduates must take the special exam before being admitted into postgraduate internship or residency programmes at American teaching hospitals. St George's graduates are ranked second only to those from Israel's Sackler Medical School in these competitive exams. All courses at St George's are taught in English, making it the most popular among American students in the Caribbean.

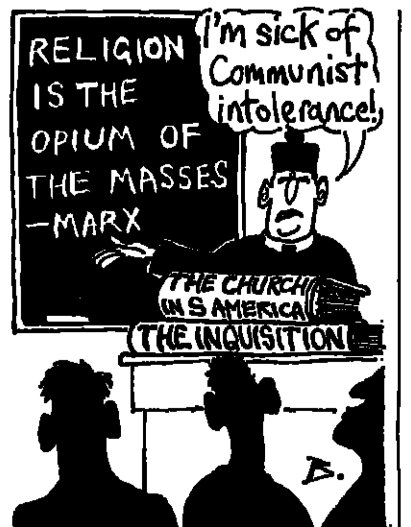
There were 650 medical students enrolled at the school's two Grenada campuses before the invasion. Some 90 per cent were American. The school has its corporate offices on Long Island, near New York City.

While attention was focused on the restoration of democracy on Grenada, Mr Reagan staged a coup of his own in Washington, signing dismissal notices for three liberal members of the US Commission on Civil Rights. Their sacking clears the way for the president to install nominees more in sympathy with his politics.

The three he has in mind are Mr Morris Abram, former president of Brandeis University in Massachusetts, Mr John Bunzel, former president of San Jose State University in California, and Mr Robert Destro, a law professor at Catholic University in Washington.

Two of the three deposed commissioners have filed suit to invalidate the president's action and are asking courts for reinstatement. Senator Edward Kennedy likened Mr Reagan's sudden move to former president Richard Nixon's dismissal of the Watergate special prosecutor 10 years ago.

A case of divine intervention


RELIGION IS THE OPIUM OF THE MASSES –MARX
I'M SICK OF COMMUNIST INTOLERANCE!
THE CHURCH IN S AMERICA
THE INQUISITION
B.

Theological students at Bratislava Catholic Seminary are now obliged to attend lectures in atheist philosophy, according to a clandestine document from Slovakia which has just reached the West.

The lectures are not mentioned in the official lecture lists of the seminary and are, it claims, given by lecturers in Marxism from the nearby Bratislava State University.

The report coincides with an escalation of anti-religious particularly anti-Catholic, propaganda in the official Czech and Slovak media.

Although the Czech constitution gives the usual formal guarantees of freedom of conscience, and the government pays the clergy's salaries, it keeps a tight control over religious life.

Priests and pastors who are too outspoken can be deprived of their licences and forbidden to carry out their religious duties, religious orders are not allowed to admit new novices, and a number of Catholic dioceses are left without bishops, since the state will not accept the Vatican nominees.

Only two Catholic seminaries are permitted – one in Litomerice for Czecks, and the other in Bratislava for Slovaks. So far, Litomerice has been left relatively alone by the authorities, although there is some state control over admissions in particular student numbers.

Recent reports from church sources in Prague, however, mention that students wishing to enrol in the Litomerice seminary have had to submit an affidavit that they did not belong to a religious order, in other words that they had not joined one clandestinely.

The Bratislava seminary has suffered considerable state interference for some time. A few years ago, under state pressure, a lecturer in pedagogics was appointed who is an active member of the state-approved "patriotic" *Pacem in Terris* movement, which has since been condemned by the Vatican. This priest's lectures contain, it is claimed, no personal input – he simply reads aloud from a Soviet text book.

Other lecturers, the document claims, are equally unfitted for their positions on both acadeic and moral grounds.

Furthermore, the State Secretariat for Religious Affairs in Bratislava has recently begun a programme of personal surveillance of the students. Several times, it is reported, a certain Mr Kacer from the secretariat has visited the seminary. He has burst into students' rooms without knocking to see if they had forbidden radio sets capable of picking up Vatican radio and to search their books for banned works published abroad.

Although the clampdown at Bratislava seems part of a general campaign against religion, the general situation in the seminary closely fulfils a warning from Cardinal Tomasek of Prague at the time when Father Horak was first appointed.

The cardinal wrote to the local Slovak Bishop Gabrys, expressing his concern and fear that if Father Horak were allowed into the seminary, this would be opening the door of all kinds of state interference.

Brain drain is a trickle

from Benny Morris
JERUSALEM

Israel's brain drain is not much more than a trickle, it emerges from a study recently completed by the Hebrew University's unit for academic planning and development.

The study deals only with Jerusalem's university, but is probably indicative of national trends. It investigated the employment of those who received PhDs between 1976 and 1982 and concluded that only 5.4 per cent of them have sought their fortunes abroad.

The study followed the completion of a survey in 1976 which investigated the employment of all Hu PHDs between 1950 and 1975. That survey found that some 6.5 per cent of the doctorates from that period were then living abroad, either as temporary or permanent emigrants.

The earlier survey found that some two thirds of the PhDs had found employment in the country's universities and research institutes. Of the 1976–82 PhDs, only about half were so employed.

Of the 1976–82 total, some 26 per cent found employment at the Hebrew University, just under 10 per cent joined the public service (as civil servants and aligned professions) and about five per cent went to industry.

The largest proportion of PhD emigrants was among students of law and scientists.

Mexican union in strike call

from Emil Zubryn
CUERNAVACA

A strike intent notice has been delivered to the National University of Mexico (UNAM) administration, with a threatened walkout if demands were not met.

Evaristo Perez Arreola, head of the Union of National University Workers (STUNAM) said that a 50 per cent wage increase demand was to compensate for constantly rising prices and erosion of purchasing power. The union represents 25,000 university workers.

Perez Arreola categorically stated that the strike call will be issued, even though this paralyzes university activity. Government officials have been asking for "cooperation" and minimum salary demands, including the Federal Labour Conciliation Board of the Ministry of Labour. The union official said that there would be no repetition of the unsuccessful strike last June where workers returned without winning any wage increases.

The Bank of Mexico has been steadily releasing downgraded inflation statistics over past months, with those for September at 3.1 per cent, the lowest in over a year. But these statistics are not believed and have been subjected to strong criticism by labour unions, the powerful Mexican Labour Confederation (CTM), economists and consumer groups.

The CTM has stated that the inflation rate will go above 100 per cent this year, with other sources indicating that if "proper evaluations" were made by officialdom, the true inflation rate would hover around 200 per cent.

Under these circumstances, and gauged by prices for basic foods in markets, the country's workers feel they have been patriotic long enough and now will show greater determination in asking for salaries more commensurate with the cost of living.

Perez Arreola in outspoken criticism of the government's "austerity" policy said that labour unions could not indefinitely comply with official calls to modify salary and fringe benefits demands.

Sikh students turn militant

from A. S. Abraham
BOMBAY

Sikh students banded together under the All-India Sikh Students Federation (AISSF) are playing an important role on the side of Sikh political extremists. They are in collision with the federal goverment on various territorial, religious and cultural demands made to protect the Sikhs' identity, which they believe is in danger of being swamped by the Hindu majority.

Recently there have been a series of violent incidents in which the victims have mainly been Hindus. So Punjab state, where the Sikhs have a small majority, has been put directly under Delhi's rule and declared a disturbed area where emergency deterrent legislation is in force.

According to the federal government, many Sikh extremists involved in the incidents have taken refuge in the Golden Temple at Amritsar, the Sikhs' holy city, where the police cannot by convention enter.

The extremists are led by a young holy man Jarnail Singh Bhindranwale, who is himself suspected of having a hand in the violence. He is in the Golden Temple along with a number of his followers, all heavily armed.

Sant Bhindranwale joined an otherwise moderate-led demonstration by the Sikh party, the Akali Dal, and gave it a confrontationist dimension following the arrest in July 1982 of the AISSF president, Bhai Amrik Singh, on charges of arson.

Under Bhai Amrik Singh and Mr Harminder Singh Sandhu, the general secretary, the AISSF has become a militant body. It has been training student volunteers to deal secretly with "erring" police officials who commit atrocities against the Sikhs.

THE BRITISH COUNCIL

50th Anniversary Travel Awards

The British Council offers a limited number of Travel Awards up to a maximum value of £1,000 each plus return air fares to mark its 50th Anniversary in 1984. Recipients of the Awards will travel overseas in 1984 to undertake projects of their own choice to promote cultural relations between Britain and another country for a period of between three weeks and three months.

Applicants, who must be between the ages of 25 and 60 on 1 January 1984 and permanently established in Britain, should write enclosing a stamped addressed envelope (minimum size 8⅝ × 4¼) for an application form and rules to:

Specialist Tours Department,
50th Anniversary Travel Awards,
The British Council, 10 Spring Gardens,
London SW1A 2BN.

The closing date for receipt of completed applications at that address is 2 December 1983.

The Awards are supported by British Airways and British Caledonian Airways.

British airways

British Caledonian Airways

1934-1984 THE BRITISH COUNCIL

Sharing out the research cuts

BRIEFING

Jon Turney looks at the task facing the Advisory Board for the Research Councils

Sir David Phillips: ABRC chairman

The men who carve up Britain's basic research cake are seeking a sharper knife. The Advisory Board for the Research Councils' procedures were described by an anonymous "senior official" in a recent report by the Science Policy Research Unit at Sussex like this: "the process is simple – it is based largely on the 'old boy' network of discussions conducted at a general level . . . these provide only very general impressions – impressions based on a good deal of experience and well-informed prejudice, rather than hard data." Even in a field where the standards are set by the University Grants Committee, the results of this deliberation looked a bit thin when the board's arguments for scientific priorities were published for the first time last year.

But if the ABRC is to refine its procedures for choosing priorities it faces a delicate task. It must develop a system which satisfies board members unhappy with present arrangements and outside critics – and it must also keep the cooperation of the five research councils whose share of the £500m Department of Education and Science budget for research is at stake. The heads of research councils are all members of the board and will oppose moves to strengthen direction from the centre.

Of course, weighing scientific priorities is not a new problem – Professor Sir Frederick Stewart pointed out the need for improving methods for this in his first report as chairman of the ABRC in 1974. But the "forward look" procedure then developed by the board, with priorities coming up to ABRC from the individual councils is now failing to cope with the strains of the 1980s. In the meantime, the terms of science policy debate have shifted markedly from seeing the board's task as creating the right environment for research to advance, to taking a view on what research should be done.

However, the changes in the forward look procedure instituted this year are as much to do with the ABRC's other perpetual problem – arguing to the education minister that the science budget needs to expand – as with taking a firmer grip on the research councils. In the past, the ABRC's annual cycle has been completed before the results of the cabinet battles over public expenditure – and hence the size of the research council cake – emerge in November or December.

This year, the board's new procedure divided into two stages. The first produced a detailed statement of "scientific opportunities", sent to the Secretary of State for Education, Sir Keith Joseph, to arm him for the cabinet fray. And for the first time, the detailed forward look with the board's formal advice on division of the spoils between the five research councils will only be finalized after the size of the science budget is known. It will probably appear very early next year.

A further novelty is that the list of scientific opportunities is prepared with contributions from the group of "independent" ABRC members. This group, who are neither heads of research councils nor departmental chief scientists, makes the first assessment of forward look proposals from the councils. As the first stage of the new two-part procedure, each of the independent members prepared lists of areas they wanted to see given more support, to go alongside lists from the five councils.

These items were termed "opportunities" because the councils are already supposed to be pursuing their scientific priorities. The composite list which emerged from several rounds of discussion and redrafting then went to Sir Keith, along with arguments about the crippling cost of the Science and Engineering Research Council's contribution to the European Nuclear Research Centre (CERN) in Geneva, and the rising cost of scientific instruments and apparatus.

The document remains unpublished, but this year it looks rather like a collection of known research council priorities. The SERC made a case for two new directorates under its engineering board, in civil engineering and the application of computers to manufacturing, and for a new satellite project for the astronomers.

Similarly, the Natural Environment Research Council is looking to expand work in deep geology and the Medical Research Council in the neurosciences and new medical imaging techniques, especially the commercially promising area known as nuclear magnetic resonance. The Agricultural Research Council's case is known in more detail as the council published its plans as part of its campaign to fight cuts imposed by the ABRC last year, a campaign it is now very unlikely to win. Their preferred new initiatives include nutrition, food processing and biotechnology. The Social Science Research Council, for its part, added taxation and fiscal studies, health studies and work on industrial regeneration to the list.

Initially, all this is intended to strengthen the board's claim on the Exchequer. This year's effort is regarded as a trial run, but some tensions are already evident. First, the councils are uneasy about the augmented role of the independent board members. Traditionally, a council proposes and the ABRC disposes. Now, proposals may come from the board itself. The independents' group has been enlarged recently and, more significantly, now gives industry a stronger voice. New members like Dr Derek Roberts, research director for GEC and Dr Tony James, head of bioscience research at Unilever, are certainly not short of an idea or two.

Second, the list could be a double-edged weapon for the board in its exchanges with the department. While it may help the case for more cash, the science budget is as vulnerable to snap decisions in the present round of "star chamber" reviews in the cabinet as any other element of public expenditure. And if no new money is forthcoming, the board will still be under pressure to promote the areas it has identified as ripe for expansion. Members have not yet drawn up a list of areas to cut back to make way for new projects, but that could easily be the corollary of the scientific opportunities exercise in future years.

Finally, the list is still very diverse, and doesn't really address the question of how the board chooses *between* promising areas as opposed to identifying them. So it's no surprise that Sir Alec Merrison, the previous ABRC chairman admitted before a partlimentary select committee that the bulk of the board's work amounted to little more than horse-trading among the research councils.

However, there must be some hard data to draw distinctions between broad categories, if not detailed projects. Some animals, after all, can swim. The ABRC's position on this issue is still developing. The new procedure introduced this year was conceived during Sir Alec Merrison's tenure, and the new chairman, Sir David Phillips, is not likely to let the matter rest there. With his support, the board has already found money for a trial of quantitative methods of assessing research performance in sample areas of council work, and this work will be expanded after next year.

The study announced last week on identification of parts of science with medium-term commercial promise, organized by the second main advisory group in science and technology – the Advisory Council for Applied Research and Development – should also offer a basis for choosing between areas of similar scientific merit. And a paper prepared in the cabinet office which provides the first comprehensive review of research and development across government departments will provide another new input into the "scientific state of the nation" report which the chairmen of ACARD and the ABRC now have to produce each year.

If all these elements come together, they could fill out the picture now being sketched by some ABRC members of a stronger board with, perhaps, a full-time chairman and a larger secretariat, and able to shift large blocks of money between the research councils to match shifting priorities.

However, even the sharpest knife would not permit surgery on this scale without bloodshed and a board like this is politically still some way off, although the arguments in favour are certainly being heard both inside and outside the ABRC.

List of ABRC members

The membership of the ABRC, after all the recent appointments, is as follows:

Heads of Research Councils: Sir Hermann Bondi, chairman, Natural Environment Research Council; Sir James Gowans, secretary, Medical Research Council; Sir Douglas Hague, chairman, Social Science Research Council; Professor John Kingman, chairman, Science and Engineering Research Council; Dr Ralph Riley, secretary, Agricultural Research Council.

Chief Scientists: Anthony Challis*, chief scientist, Department of Energy; Dr George Elton, chief scientist (fisheries and food), Ministry of Agriculture, Fisheries and Food; Professor Patrick Forrest, chief scientist, Scottish Home and Health Department; Dr Martin Holdgate*, director-general of research, Departments of the Environment and Transport; Dr Robin Nicholson*, chief scientific adviser, Cabinet Office; Professor Richard Norman*, chief scientific adviser, Ministry of Defence; Sir Desmond Pond, chief scientist, Department of Health and Social Security; Mr Oscar Roith*, chief engineer and scientist, Department of Trade and Industry.

Other members: Professor Sir David Phillips* (chairman), professor of molecular biophysics, University of Oxford; Dr Walter Bodmer, director of research, Imperial Cancer Research Fund; Sir Henry Chilver*, vice chancellor, Cranfield Institute of Technology and chairman, Advisory Council for Applied Research and Development; Dr Tony James, head of bioscience research, Unilever; Sir James Lighthill, provost, University College London; Sir John Mason, treasurer of the Royal Society; Professor Peter Mathias, professor of economic history, University of Oxford; Mr Dick Morris, chairman, Brown and Root (UK); Dr Derek Roberts*, director of research, General Electric Company; Sir Peter Swinnerton-Dyer, chairman, University Grants Committee; Mr Martin Wood, deputy chairman, Oxford Instruments Ltd.

*denotes member or assessor on Advisory Council for Applied Research and Development.

Professor Stott: "I am, in a glorious way, free."

Motorway man takes a new turning

David Walker talks to Professor Peter Stott, formerly with the GLC

At the annual meeting of the Royal Institute of Public Administration in September the Greater London Council's top official complained that academics were woefully ignorant of the current turmoil in the relations of local authorities and the Government.

The official, Sir James Swaffield, doubtless has an interest; his bureaucratic charger is about to be shot away from under him. But he probably also has a point: municipal matters are not usual common room topics.

Ignorance of local government is not, however, a charge that will in future carry much weight in the Strand, at the institution of higher education which is geographically closest to Mr Kenneth Livingstone and the GLC. For King's College, London, has just appointed in Professor Peter Stott an expert on how local government operates.

Moreover he is neither a political scientist nor constitutional lawyer but a professional engineer who made a career in municipal administration, planning and managing local services. For a decade he was a chief officer at the GLC's County Hall itself

Read in one way, Professor Stott's appointment this term to the college's newly-founded Kevin Nash chair of civil engineering (it is named after an eminent King's engineer) looks something of a gamble.

Here is an institution not exactly renowned for its radicalism, in the midst of the retrenchment and upset caused by London University's reorganization, employing a 56-year-old made redundant by his former employers – the National Water Council – who has had little contact with the academic world since he left Cambridge in the 1940s.

Yet in another light it is an exciting appointment, likely to benefit not only King's but engineering education in general. Instead of retiring comfortably to supplement his redundancy money with consultancy work, Professor Stott has chosen a fresh career, bringing into teaching and academic administration high grade organizational skills and rich experience of practical engineering.

As a young man Professor Stott was fortunate. As a partner in the consulting firm G. Maunsell, he flourished as a builder. His design credits include dry docks and major bridges. The Australian federal capital of Canberra is held together by two Stott-designed bridges, constructed when he was retained by the town planner, Sir William Holford.

Closer to home Professor Stott is associated with a structure which as many millions have been over as under, a bridge that symbolized for many in London the coming of the motorway age. "I check it is still standing whenever I'm travelling out to Heathrow through Hammersmith," Professor Stott says wryly. It is the Cromwell Road extension, popularly known as the Hammersmith flyover, which he designed on a contract from the London County Council.

It was as a builder and designer that Professor Stott entered local government service, first for the London County Council then for its successor the GLC.

As a chief officer responsible both for roads and wider issues of town and country planning, Professor Stott became a central player in an episode some now see as the great test of the GLC as a "strategic" authority. It was the ambitious Greater London Development Plan, a voluminous statement of the future of employment, housing and transport in the capital.

Drawing up that plan in the later 1960s and early 1970s was a fraught time, Professor Stott now recollects. Specialist officials were pitted against each other; the Labour and Conservative parties warred; there was a volume of public antagonism to the roads plan in particular. A "box" of motorways was envisaged ringing the central district of London, the suburbs and the outer areas.

"The official line was planning for population increase. We were making extrapolations of economic and population growth and coming up with horrifying answers about transport. The received wisdom from across the Atlantic was to produce motorways."

And 20 years on, even an enthusiastic builder as Professor Stott concedes the urban motorway scheme for London is not missed. "Some roads could do with relief but on nothing like the scale we once had in mind."

In 1973 the roads issue dominated London politics and secured the replacement at County Hall of a Conservative administration by Labour. In the same year Professor Stott joined the National Water Council.

The two events were not connected, he says, though he gives the impression that he might not have been as comfortable in the County Hall of the 1970s and 1980s.

As the first, and only, director general of the National Water Council for the 10 years of its life from 1973, Professor Stott oversaw the introduction into the water industry of the "corporatist" principles which informed the Heath Government's rearrangements of the National Health Service and local government.

Perhaps not surprisingly, like local government and the NHS, water has been the subject of Mrs Thatcher's desire to unravel the work of her Conservative predecessor. The Water Act passed earlier this year altered the regional water authorities and did Professor Stott out of a job by abolishing the National Water Council.

Diffidently he applied for the King's post, well aware of the length of his absence from the university lecture hall.

Now having taken up residence in one of King's labyrinth of offices backing on the Thames: "I am, in a glorious way, free. About university life and London engineering I have no preconceptions at all. It is a considerable privilege."

As Professor Stott begins, as he says, to review the state of the parties, the convaluted relations of London's constituent colleges and Senate House have already begun to fascinate him. With his deep experience of the bureaucracy of both County Hall and Whitehall, the circuit of offices in the University of London should hold no terrors.

In our second article on polyversities, John O'Leary looks at the national dimension

Hidden perils of crossing the line

With every polyversity, or the prospect of one, is revived the hoariest old chestnut of all debates on higher education policy: the merits of the binary system and the prospects for national reform.

The more mergers are contemplated, the more it may seem that logic points towards some single body in control of, or at least advising on, the distribution of students of money in all institutions. Yet, for all its attractions, the idea has not commanded real support either from ministers or those undertaking the major examinations of higher education in recent years.

The binary policy, initiated by the late Mr Anthony Crosland, as Secretary of State for Education in 1965, has encountered criticism from every imaginable source but its qualities of endurance are there for all to see. Ministers have come and gone declaring their doubts about its wisdom, expressing interest in alternatives such as the Australian system, but none has made any attempt at a dismantling.

Indeed, only last year two senior civil servants at the Department of Education and Science were dispatched to Australia to see for themselves whether there would be advantages in emulating the single Tertiary Commission system. But there were few indications at the time that any dramatic change would ensue even given a positive report.

In the event, the report was largely negative and, after a change of minister, the political climate is even less receptive to a major upheaval. The civil servants' verdict was that the Australian model was not easily transferable because of the different financial and organizational structures in the two countries, quite apart from the political consequences.

Having only recently created the National Advisory Body, it may be supposed that the Government would not have been anxious to embark on a still more radical reorganization in any case. But, with the NAB's initial remit running out in February 1985, some examination of alternative systems was timely.

Assuming ministerial satisfaction with the outcome of the NAB planning exercise, it was always odds on that the body would survive its first review unscathed. But its strictly limited tenure did leave room for a rethink if all did not go according to plan.

The options, in addition to a straightforward fallback to the original DES plan for national control of the largest public sector institutions, would be either a full-blown merger of the NAB with the University Grants Committee, or what has come to be known as "the over-arching body".

This would leave both the NAB and the UGC intact but would superimpose a strategic planning body at the head of the system. Civil servants would say that such a body already exists – in the form of the DES.

Both the major inquiries into higher education undertaken in the last four years (one by the House of Commons Select Committee on Education, Science and the Arts, and the other in the form of the Leverhulme programme) have considered the merits of such changes and both have been equivocal in the end.

Neither has come out against unitary control of higher education but neither has felt that the time was right for its introduction. Even without the natural inclination towards the status quo which comes with government, the two groups were persuaded against recommending the final step which would break the binary system.

A minority report by two members of the Select Committee did advocate a unitary system, giving control of all higher education to the Council of Local Education Authorities, but the majority plumped instead for a body akin to the NAB with hopes that binary divisions would break down subsequently.

Despite having considerable reservations about the justice and efficiency of the binary policy, the MPs perhaps wisely addressed themselves to the more limited objective of securing national planning for the polytechnics and colleges. Arguably, they were successful since the NAB followed within a year.

The committee expressed the hope that transbinary cooperation would then develop "organically" and proposed a simultaneous review of the two national bodies after five years, implying but not stating the possibility of a merger as a result. The path was to be eased by the establishment of a joint secretariat between the two bodies "to coordinate planning in higher education".

This might examine the rationalization of courses and subjects, the retraining or redeployment of staff and the coordination of initiatives in continuing education. It was one of the many recommendations which was not accepted.

In the Leverhulme inquiry it was the over-arching body which attracted more support, although Lord Crowther-Hunt, who chaired the relevant seminar, remained an unabashed supporter of the UGC/NAB merger.

The former higher education minister wrote in his foreward: "It was a pity . . . that the majority of our colleagues would not face up to the logic of a long-term merger between the UGC and NAB. Instead they recommended an advisory body which would 'over-arch' both the UGC and NAB. The new overarching body would not, in their view 'interfere with the established powers and funtions of the UGC and NAB'. . . With luck this idea for an additional bureaucratic monstrosity to interpose itself between the department and the UGC/NAB will wither on the vine."

It had withered to some extent by the time the final report was agreed. This stressed the need for the NAB to establish itself before any attempt was made at a merger with the UGC, the latter being relegated to a long-term option. Like the Select Committee, Leverhulme preferred the encouragement of transbinary cooperation in the short term.

There is no doubt that the arrival of the NAB has increased the pressure on both sectors to step up cooperation, as well as making existing schemes more visible.

In addition to introducing limited cross-representation between the UGC and the NAB board, the two bodies have made a start on joint committees with the establishment of formal groups examining provision in agricultural and architecture and informal exchanges on pharmacy. The two chairmen also meet regularly with the chairman of the board of the Welsh Advisory Body.

One indication of the changed climate was the unexpected appearance of a joint statement by the Committee of Vice Chancellors and Principals, and the Committee of Directors of Polytechnics on collaboration between their institutions. The content was unremarkable and no encouragement was given to new national machinery, but the fact that the two groups considered the subject worthy of their first ever joint venture shows that the evolutionary change hoped for by both the Select Committee and Leverhulme may be under way.

Both Sir Peter Swinnerton-Dyer, the new chairman of the UGC, and Mr Christopher Ball, chairman of the NAB board, are enthusiasts for the polyversities and for blurring, if not necessarily eradicating, the binary line.

Neither has advocated publicly any formal link between the two bodies, but both have expressed doubts about the binary system as it exists at present. Sir Peter chaired the steering group which laid the ground for the only polyversity definitely in the pipeline, in Ulster, while Mr Ball is on the record as encouraging similar ventures where appropriate.

However, the two men are well aware of the difficulties in any national merger. Sir Peter's predecessor, Sir Edward Parkes, told the Select Committee in March that he did not think any merger was feasible while the UGC and the NAB operated in such different ways – the UGC relying on subject committees and confidential discussions, the NAB board being more open and representational.

Mr Ball did not demur and will be more aware of further obstacles presented by local authority control of polytechnics and colleges. Although the NAB, in taking in the voluntary colleges, will be advising on institutions which receive their money from different sources, the problems are not comparable to bringing in the universities.

An overarching body, given the dreaded label of a new quango and assumed to bring a new tier of bureaucracy is likely to find no more favour with ministers, who will not be keen to relinquish any of their powers of direction over student numbers or budgets. The conclusion is almost certain to be that no change is required for the forseeable future, no matter how much the coming of the polyversities may thrust the issue back into the limelight.

Next week: case studies

David Jobbins reports on a survey of students' shrinking income

Result of receding returns

To its critics, the Government approaches the student grant assessment more as an arm of incomes policy than as a tool for a specific job – a cushion against poverty while young peole acquire skills and knowledge which will normally repay society's investment and more.

Over the past few years, ministers have appeared deaf to warnings not only from the students themselves but from the Committee of Vice Chancellors and Principals that rising accommodation costs and the soaring price of books were taking larger and larger bits out of what remained the main, but in real terms shrinking, source of income for most students.

Indeed Sir Keith Joseph, Secretary of State for Education and Science, had no qualms about advising students to "stint" themselves when challenged by MPs at the very beginning of the process of the erosion in the grant value.

It was not long after this that the vice chancellors pointed to the first effects of the policy. Last year – too late to influence the Government's decision on the main rate of grant – they said that the gap between grant and needs had widened by 3 per cent over a year.

Hall fees were rising, largely as a result of Government policies on university budgets, and libraries, similarly stretched, were increasingly unable to cope with the extra demands from students no longer buying so many essential books.

The National Union of Students felt a broader assessment of students needs and the way they met them was urgently needed.

First conclusions of the resulting £55,000 income and expenditure survey, published this week, show the extent to which Sir Keith's "advice" was already being taken. It found that:

- the average grant does not cover bare essentials of student existence – board and lodging, books and equipment.
- students, most of them legally independent adults, are forced to turn to their parents for money for essentials as well as clothes, leisure and social activities.
- vacation jobs to bridge the gap are not surprisingly difficult to find – only 54 per cent worked during the summer vacation before the survey.
- spending on alcohol, tobacco, and entertainment is significantly lower than a decade ago.
- more than half the students surveyed had had an overdraft.

The NUS commissioned the Survey Research Unit at the Polytechnic of North London to carry out the survey and establish a new bench mark for the negotiations with the Department of Education of Science over future levels of grant.

The task was carried out mainly during the spring term of this year and involved 1,723 interviews with students from 60 universities, polytechnics and other colleges. Almost all the students also completed a diary of their spending over the week following interview.

It is not the first time that student income and expenditure has been systematically surveyed since grants were introduced in 1962. The Office of Population Censuses and Surveys did one on behalf of the DES and the Scottish Education Department in 1974/75 with the same aim of a data base to aid the review of the level of grants.

The full report was not published until 1979 and the NUS says there is no evidence its findings were ever acted upon. But the idea of the current survey was to follow as closely as possible the OPCS methodology, incidentally opening the way for some interesting comparisons beween students of 1974 and 1983.

The OPCS concluded that on average students overspent by £103 over the year but probably made up the shortfall by taking vacation jobs, or drawing on savings. The NUS's survey data is said to show how parents have failed to step into the breach created by escalating costs, despite the finding that in real terms today's average grant of £1,142 a year is worth more than the 1974/75 average of £411 (equivalent to £1,102 in 1983 values).

The survey found that the average grant was only slightly more than the £1,137 average two-term expenditure arrived at in the survey.

The NUS says there is ample evidence in the data that the average student actually spends more than this figure, which was based on interviewees' estimates. When "corrected" by reference to the spending diaries, the real average is £1,260.

Accommodation costs remain the single largest item of expenditure – a 59.2 per cent slice of all spending in the NUS survey compared with 48.1 per cent in 1974/75.

The only other area where spending increased over the period was on course books and equipment. Purchases as a percentage of all spending rose from 4.4 to 5.1 per cent but the amount spent in real terms in 1974/75 (£80 a year) compares unfavourably with the £59 of the 1980s student.

Spending on "non-essentials" – including stationery, paper, typing, medications and personal hygiene – has fallen from 32 per cent to 21 per cent. Entertainment, alcohol, sports and tobacco have taken an even deeper dive, with spending down 20 per cent.

The NUS concludes: "This evidence invites the conclusion that students are cutting down on their social and leisure spending either because they are working harder or because they have no option, but more likely a combination of both."

The survey shows that the share of income from parents fell from 27.5 to 22 per cent between the two surveys, while the average assessed contribution rose to £468.

But although more than half the studens surveyed received as much or more than their parents' assessed contribution, 47 per cent did not. A worrying 12 per cent – most with parental contributions assessed between £400 and £800 – were over £200 short.

Parents of university students seemed the most generous – 27 per cent receiving more than £100 over the assessed contribution compared with 16 per cent for the polytechnics and 17 per cent for the colleges.

FREE

Take out a year's subscription to The Times Higher Education Supplement and we will also send a free copy (worth £7.75) of the very latest hardback edition of the Concise Oxford Dictionary specially bound for The Times Supplements. It contains entries for over 40,000 headwords, with a total of some 75,000 vocabulary items including derivatives, compounds, and abbreviations. Simply complete the coupon below and send it together with your cheque or postal order for £22.50 to the address shown.

This offer applies to new subscribers in the UK only.

The Times Higher Education Supplement

Please send a free THES Concise Oxford Dictionary and a year's subscription to the Times Higher Education Supplement. I enclose my cheque for £22.50 (Cheques made payable to Times Newspapers Ltd). Please send to:

NAME__________

ADDRESS__________

SIGNATURE__________ DATE__________

Please send this coupon with your cheque to FRANCES HOUSE, The Times Higher Education Supplement, Priory House, St Johns Lane, London, ECIM 4BX. TT3

The architecture debate: Felicity Jones reports on a row over RIBA assessment policy

Criticism built on rocky foundations

Architecture is in a state of turmoil over where it should go next educationally. Not since the 1958 Oxford conference which put schools of architecture on a similar academic footing to other professions, has education taken centre stage within architectural circles.

The present debate is proving to be bitter, not least because architects have realized too late that quality might be in the process of being sacrificed to a numbers game. The powerful Royal Institute of British Architects, which controls entry and sets the standard of architects in practice has already committed itself to reducing student intake and some influential members believe that the RIBA has rushed its viewpoint through at the national level of discussions without full and proper discussion and might also be in the process of introducing changes through the backdoor.

At a time when the future of architectural education is very much up in the air – the National Advisory Body and University Grants Committee working group on architectural education is making its deliberations – and particularly in the light of recent polytechnic cuts, morale within the schools is bound to be distinctly fragile. All the more reason, therefore, that what is said by RIBA visiting boards, particularly behind the scenes, and by members representing RIBA at government level discussions should be weighed and carefully considered to reinforce the fact that the board is there to evaluate the professional standard of the courses, as they do periodically for every school of architecture, and not for any ulterior motive.

The aims of a visiting board are set out by RIBA's education and professional development committee and are in the form of a four-page document on the composition, aims, duties, procedures and arrangements of the visiting board which is sent to each school before an impending visit. It says: "The visiting board's aim is to evaluate the effectiveness of courses and examinations in achieving the standards necessary to prepare the students for the professional practice of architecture. It seeks to engender quality in architectural education and to stimulate critical self-analysis in schools. Experiment and innovation in course patterns and in teaching methods are encouraged."

In a recent visit to Oxford School of Architecture based in the polytechnic, the first following the RIBA's policy decision to restrict the growth of the profession, the board appeared to overstep these strict aims. The comments made by some of the members of the board, mostly in one private session with the school's external examiners, led a number of people to believe that political considerations to do with reducing student numbers had already entered and interfered with course approval even before the NAB/UGC committee had made any recommendations about the future of architectural education and resources.

A visiting board's assessment is made by looking at the lowest pass student portfolios of all years and at an exhibition of "average work" throughout the school. Part of the visiting board's task is to check the judgements made by the school's annual external examiners whose main task is to regulate such matters.

On this occasion, the visiting board to Oxford was made up as follows: Andy MacMillan, who is head of the Mackintosh School of Architecture and chair of the RIBA's education and professional development committee and member of the NAB/UGC committee; Alan Groves, who ran unsuccessfully for RIBA president this year on a ticket which among other things included restraining the growth of the profession; Allen Cunningham, head of the Polytechnic of Central London school and a member of the EPDC; two other practising architects and two RIBA-nominated observers.

The pattern of the Oxford school's diploma course (the final two years) is innovative. Their degree course was voted "best" in Brian Heap's degree course offers booklet of two years ago.

The Council for National Academic Awards gave the degree course a very positive report and by a recent irony two diploma students won a prestigious award for energy conservation design awarded jointly by the RIBA and British Gas.

Following the usual practice, comments from the school on the visiting board's first draft report did temper the final report – the grosser errors of fact (revealing inadequacies in the board's own procedures) were omitted. While accepting the recommendation of the visiting board that the diploma course should be revisited in three year's time rather than the customary five, the school and its head Robert Maguire have formally rejected the body of the report in writing and challenged the RIBA to a dialogue in order either to establish acceptance of the school's particular educational values or to elicit from the RIBA a clear statement of its criteria for Part 2 (the diploma course in Oxford's case) recognition.

Oxford objected strongly to receiving a visit in three years on its diploma course which would take as its starting point this latest visiting board report. This procedure is quite unprecedented. (There is no formal appeal procedure in the RIBA's visiting board rules.) The school's degree course (Part 1) and professional practice examination (Part 2) received complete approval.

Still buried in the report are controversial comments which, taken with the remarks made in private discussion, throw a question mark over what really were the criteria being used in the assessment of the school and whether student numbers had already entered into the equation. To quote but one remark: "On the basis of their personal experience, members considered those from the third year to have been overmarked by as much as 10 to 15 per cent, final year work by as much as 15 to 20 per cent. In any case, there appears to be a substantial 'rump' of weaker students being awarded diplomas and this should be avoided in the future."

Difference of opinion

Clearly there is a difference of opinion on quality between that of the external examiners, Professors Geoffrey Broadbent, Pat O'Sullivan, Ian Macleod, Hans Hanlein, Adrian Gale and local practising architect Barrie Steele and that of the RIBA visiting board. As Hans Hanlein put it: "I have read the RIBA's report and I have examined the diploma course and I cannot believe for a moment that the one refers to the other."

So concerned was one external examiner about the nature of the visit that immediately after Mr Barrie Steele, in his role as chairman of the RIBA southern region education committee wrote formally to the Oxford school to express his "extreme reservations". He is in the unique position of having been both an external examiner for Part 1 of the school's work and also a former member of the 1977 visiting board to the school when, he recalls, he was one of the most critical members.

Mr Allen Cunningham: surprised by the strength of feeling

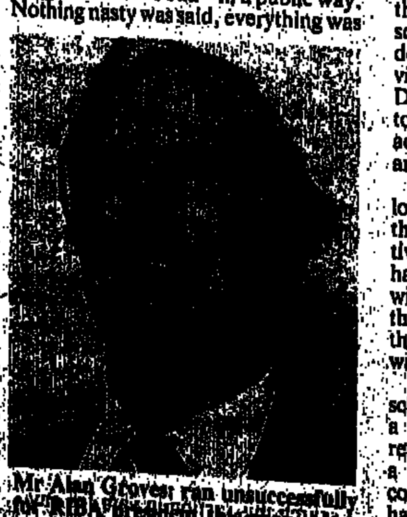
Environmental simulation at Oxford Polytechnic; Graduate diploma course architectural students using equipment developed in the department of architecture.

He referred in the letter to the marked difference in tone and level of criticism between what was said by the board to the general meeting with staff at the school and to the external examiners. Mr Steele believes that the board went to Oxford with the preconceived intention of taking a tough line with the school. Since Oxford has one of the biggest intakes of students, the board "felt it necessary to conduct a sort of crusade on numbers" was how he described the visit.

"I was appalled by the criticisms made by the visiting board to the external examiners. They were totally damnatory and sweeping but when it came to the open meeting with all the staff all the viciousness from their comments had gone. I consider that to be most unprofessional.

"In private the students' dissertations were dismissed out of hand. One comment was that there was not a 'single set of decent drawings' but at the public meeting the board just said that they had not been finished off properly which were significanly different statements to make in those circumstances," said Mr Steele. He recalled Mr Allen Cunningham as saying: "To be frank, I have never seen such appalling design anywhere in the country."

Another criticism Mr Steele made was that there seemed to be no acknowledgement of the improvements which had undoubtedly been made in assessment methods and staff/student relationships since the last visit of which Mr Steele was a member. "The 1977 visiting board painstakingly evaluated the previous board's findings and measured them against what it found. It then weighed everything – the good and the bad – in a public way. Nothing nasty was said, everything was put in a fair way," he recalled.



Mr Alan Groves: ran unsuccessfully for RIBA president this year.

Mr Steele came to the conclusion as a result of the attitudes expressed that the board, or at least certain prominent members on it, came to Oxford not looking for improvements in a positive, constructive fashion but in a negative frame of mind.

In many respects, although the visiting board fulfils a different function, being concerned with the "products" of a school and the preparation of students for professional practice rather than with the quality of the courses per se, the method of assessment does not compare that favourably with the Council for National Academic Awards' procedures.

The CNAA maintains consistent standards by which to measure schools through the wide range of background and skills of the architecture board's 21 members (compared to the RIBA's 14). All members of the CNAA panel meet regularly to agree standards and to decide policy, which the RIBA board has not done for years. The CNAA scrupulously compares the institution against the standard and the institution's own proposals for developing its courses which are submitted in a detailed document to the board before the visit.

Students felt 'bemused'

Oxford students had a chance to compare a recent CNAA visit with the RIBA visiting boards, Professor Broadbent impressed. "I got the impression that the RIBA board had a firm idea of how the school should be run and put the sort of leading questions to the students which would confirm their views," said sixth-year student Athos Dallas. Many felt bemused and unable to put across to the board what they actually thought about their courses and school.

In comparison, the CNAA visit to look at the degree course was generally thought to have been more constructive. "They seemed to listen to what we had to say and it was much more lively with lots of students chipping in." A third year student Simon Gedye got the impression that the CNAA visit was "much more open-minded".

Mr Gordon Nelson came to the school to take over the diploma course a year ago. He had a number of reservations about this his first taste of a RIBA visit: "Some aspects of the course we already knew about. They had been picked out by a review board of members of other polytechnic faculties. So the criticisms were to be expected," he said. "But it was the personalities on the board who acted with extreme bias."

The RIBA board, according to Mr Nelson, did not seem to be interested in the polytechnic review board's findings nor did it read the dissertations but, only seemed to be interested in the drawings and portfolios in spite of the fact that Oxford puts heavy emphasis on the written work. He had also expected to be asked for more documentation beforehand so that after looking at that material the board would inform the school of what it would like to see on the visit. He found the visit altogether less searching and more biased than he had expected after the CNAA visit.

Matching aims to achievements

It is a criticism with which a previous external examiner to the Oxford school, Professor Geoffrey Broadbent, head of the school at Portsmouth Polytechnic, has much sympathy. He believes that Oxford has been badly treated in the visit and he wrote to the RIBA director of education to say so.

Having been a member of over 3 RIBA visiting boards, Professor Broadbent thinks they can be very subjective and easily persuaded by a destructive member that portfolios lack quality or are architecturally lightweight. "Surely, in these difficult days, it should be the board's job to help a school not to try and destroy it," he said.

He has for a number of years championed the view that visiting boards should attempt to understand what a school is trying to do – since each has different goals and ways of going about their objectives – and to match the school's aims to its actual achievements.

Professor Broadbent recalls that he found it difficult at first to understand Oxford's open and flexible structure but after two year's careful consideration, he came to the conclusion that the results justified the means. He also disagreed with the board's comment about the "rump" of weaker students being awarded diplomas. He intends now to raise the whole matter of the role of the visiting boards as a newly appointed member of the Architects' Registration Council of the United Kingdom (ARCUK).

One member of the Oxford visiting board, Mr Allen Cunningham, head of the architecture school of the Polytechnic of Central London thinks that the school has "vastly overreacted" to the visit. He said: "In my experience when schools react this way, it is more revealing about the school than about the visiting board."

He denied having made personally any generalized derogatory statements, about design or drawings, and rejected the idea that the board went to Oxford with any intention of trying to reduce student numbers. "Oxford is substantially the biggest school, exempting the Architectural Association, and therefore it was not wrong for questions to be raised as to whether the visit thought that the school could keep up that kind of scale. Student numbers were discussed as part of the rhetorical process but we went to Oxford with open minds," he said.

Mr Cunningham added that he had been surprised by the strength of feeling and the negative comments which had followed the visit. He thought it had been a constructive visit and put the reaction down to the "nervousness" within schools over the UGC/NAB working group and its outcome.

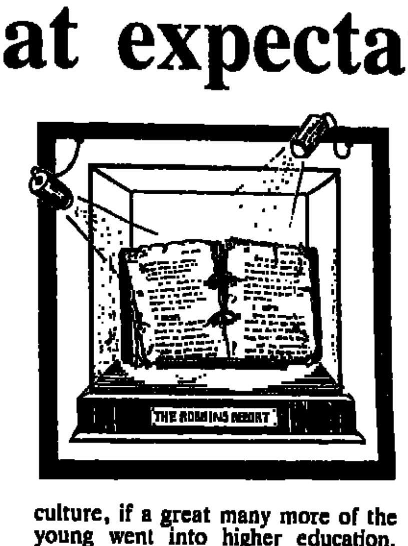
The Oxford school is not only one of the largest but, in Professor Broadbent's opinion, one of the better schools and up until now its diploma course has been able to attract a growing number of students from degree courses elsewhere. The school had the support of the CNAA and the external examiners and 86 per cent of post-Part 2 students find employment.

News travels fast after such a visit. Reputations can be scarred overnight and have been. The day after the visit's report became known, a student who had been considering doing his diploma at Oxford telephoned to say he was having second thoughts.

But it is unlikely that this RIBA visit will be allowed to rest easily. It has raised too many issues about architectural education and how its future is to be decided and involved too many of the key personalities to be swept under the carpet.

Robbins III. Charles Carter recalls the conventional wisdom of the report

Great expectations



Lord Robbins had the pleasure, which rarely comes to the chairmen of official committees, of having the broad intentions of his report accepted by the Government immediately on publication. However, if one looks at the 178 recommendations which the report makes, it can be seen that most of them were not in fact addressed to the Government, but to the universities and other educational institutions.

The great majority of these admonitions to the academics led to some appropriate action, though sometimes not as much as Robbins could have wished; while several important recommendations to the Government were rejected outright. It appears likely, therefore, that at the time the report was a readily acceptable distillation of an emerging academic conventional wisdom, but was not entirely effective in convincing politicians and civil servants.

In 1983 one can have a contemporary view of the Robbins report; and, for my part, I now regard parts of it as inadequate or wrong. It is much harder to recall what it meant in 1963 – and particularly hard for me because, oddly enough, it did not make much impact on my thinking.

Much of it provided a convenient, weighty and elegantly expressed confirmation of the views which I then held. Certainly I would have gone further on some points; but there was little in the report which grated on the mind or challenged new thought. It was a comfortable support for existing prejudice.

At the centre of the report lies a brilliant operation for the simultaneous satisfaction of two views which are potentially inconsistent. The first is the view that the teaching part of higher education is a service to individuals and that social justice requires that the opportunity should be open on equal terms to all who are capable of it and wish to take advantage of it.

By extension, the student numbers *in each subject* (and hence the staff numbers) should be determined by student choice, however ill-informed – apart from a limited number of cases, such as medicine, in which strong reason for imposing a limit to numbers can be found. By further extension, the relative attention to areas of research would be largely determined by the preferences of undergraduates; for that attention would be correlated with teaching staff numbers and teaching and research are inseparably related, the mutton and wool of the academic sheep.

I was not too happy about these extensions, on which (indeed) Robbins was wisely somewhat unclear, but I found it impossible to deny the central principle of equal opportunity, enshrined in the "Robbins principle" (s. 31):

> "that courses of higher education should be available for all those who are qualified by ability and attainment to pursue them and who wish to do so".

It did occur to me later that this celebrated principle did not actually mean anything, since the numbers "qualified by ability and attainment" depend on what one means by a "course of higher education", and it is not self-evident that this is adequately defined by referring to past tradition. But at the time the emphasis on the rights of the individual (unaccompanied by disagreeable reminders about his duties) seemed to me entirely right; and I applauded the rejection as impracticable (s. 134) of the alternative approach of considering the needs of the economy and society for trained manpower.

Precision on staffing needs might be impossible, but there was no doubt in my mind that More was Beautiful

But to be impracticable as a source of planning estimates is not the same as to be irrelevant. At the time I was convinced, as most people were, of the second and potentially inconsistent view: civilization and culture would be enhanced, and riches increased with the convenient by-product of being able to pay for the advancement of culture, if a great many more of the young went into higher education. Precision on staffing needs might be impossible, but there was no doubt in my mind that More was Beautiful.

How convenient, therefore, that a consideration of trends in the schools, aided in some years by demographic change, suggested that the provision of equal opportunity required a massive increase in student numbers! One wonders what Robbins would have said if the estimates of the number of 18-year-olds, from 1963, had shown a decline too steep to be offset by any trend in the schools.

Whether Britain is in fact more civilized because of the Robbins expansion I am not sure; civilization relates to behaviour as well as to knowledge, and it is not clear to me that the effect of the spread of higher education on behaviour has been favourable. As for our assumptions of the 1960s about the necessity of more higher education for the creation of wealth (assumptions which were thought to be supported by the Robbins comparisons with other advanced countries) – these were in fact woolly and confused.

Our thinking on this matter, like that of Robbins, was based on too narrow a view of education

It was plausible to suppose that a country seeking riches should not waste any part of its stock of high creative ability, and also that changing technology would require new supplies of people trained in specific high skills. But the mere ability to get into higher education certainly cannot be regarded as an assurance of high creative ability, nor can it reasonably be supposed that a country grows richer by enhancing the supply of those with pass degrees in English (or even economics). The argument of economic need points to the selective expansion based on staffing forecasts which Robbins rejected.

Or, at least, he had it both ways; for he proposed an increase in the proportion of students taking science and technology and within this group a considerable swing towards technology. This was only achievable by having different entrance qualifications, which was inconsistent with the Robbins principle. But in 1963 we supposed that ability would flow naturally towards science and technology, inspired by the vision of the "white-hot technological revolution" and assisted by an enlightened improvement in the schools.

The emphasis on technology in Robbins is justified by comparisons with other countries and by the fact that "In the past 100 years Royal commissions and many other bodies have repeatedly urged the need for more and better technological education" (s.376). But the emphasis on science (s.507) is related to the need for more people to have a general knowledge of science; and that in turn might be thought to be linked to the Robbins emphasis on broad and general rather than specialized courses:

> ". . . there are many walks of life in which some knowledge of a number of subjects is more desirable than a deep knowledge of one". (s.260)

However, he appears in fact to have had in mind breadth within groups of cognate subjects. Some of us at the time were arguing for a "breadth" deliberately designed to cross the borders between the cultures of science and of the humanities. In the modern world, we argued, no person of education could afford to be ignorant of at least the elements of scientific method. (Equally, no scientist could afford to be ignorant of the humanities; but that was a proposition to be advanced with tact, since scientists do not like to be thought uncultured.)

Our thinking on this matter, like that of Robbins, was based on too narrow a view of education. We should have noted, first of all, that the case for broad higher education courses owed some of its strength to the narrowness of specialization in the upper forms of the schools. This specialization was, and is, in part due to the demands of higher education itself, though it also arises from the professional pride of subject teachers in the schools, and it is facilitated by the structure of the school examinations.

If all entrants to higher education had carried (say) mathematics, a science, English and a foreign language through the sixth form, the case against specialization at 18+ would have been much weaker. Furthermore, we failed to remember that people are "educated" by many influences other than the educational institutions, so that their final state cannot be judged by adding up the formal courses which they have taken.

Robbins, of course, was intending to defer some advanced specialization to the postgraduate years. In 1963 few of us would have questioned his proposal (s.291) for a rapid increase in the numbers going on to postgraduate work and for more taught higher degrees relative to degrees by thesis. But, though the justification given refers particularly to the natural and social sciences, the nature of the Robbins expansion was likely to produce a demand for postgraduate places in all subjects – especially as the possession of graduate students confers prestige on their teachers.

Indeed, Robbins refers to "immense extensions of knowledge" in the humanities, and (for all subjects) to the need to generate more higher education teachers, tacitly assumed to need higher degrees. In the event, differences in the availability of student support secured a differential in favour of science; and this was right, for the case for training in specific higher skills by work in a research environment carries more conviction in science and technology.

There were many other points at which Robbins was echoing emerging academic opinion at the time. There should be better selection at entry; this led to the abortive attempt to move to the use of aptitude tests. Students should be able to switch courses after the first year and if necessary to transfer to a slower stream.

There should be four-year degree courses for teachers, guided by university schools of education. Adult students should be encouraged.

Staff/student ratios should be, when practicable, improved. There should be good conditions of service for staff, and better promotion prospects, with more weight in promotion given to qualities other than distinction in research. More teaching should be undertaken in small classes – an interesting example of the endorsement of a rather vague movement of opinion in advance of the research needed to validate it.

There should be much more provision of residence for students – a matter argued without considering whether the grant system might not be encouraging students to leave home when they did not need to do so.

Generally, higher education should be bigger and better and very much more expensive; and who were we to dispute such an exciting prospect, believing as we did that the extra cost would be fully met by the flow of wealth which better education, and more research, would abundantly create?

The life promised was not only well endowed, but orderly. Plans should be made in *detail* for 10 years ahead, with an appraisal of needs for a further 10 years. An example of the assurance with which, in 1963, long term plans could be laid is the proposal that in 1980/81 there should be 146,000 students in colleges of education in Britain, followed by the sentence: "It may well be objected that our aims for the colleges of education are too modest."

I search this section in vain for any mention of the factors which in reality have come to determine the numbers in colleges of education; the proposal is made with bland assurance, unbackled by an plausible model.

But this may be because the Robbins committee, despite the breadth of its composition, had no clarity of vision about higher education outside the universities. Reading the report again, I am impressed by the extent to which its discussion is apposite to universities, but much less so to the rest of higher education.

In this it reflects a very general academic view at the time; we in universities knew little about the rest of higher education, a fact which did not prevent us from judging it as inferior and of little account.

Higher education, to Robbins, meant full-time studies beyond the advanced level of the General Certificate of Education (or its equivalent). It is not in the order of nature that such studies have to take three years, of five or six years for those who take higher degrees. Indeed, just as the number who can profit by a first degree course if five times those adjudged capable of doing a higher degree, so one would expect more to be capable of profiting from two years of higher education than from three.

. . . 'full-time studies beyond A level' was taken . . . to mean 'degrees'; a lack of imagination many of us shared

In other words, an obvious issue to be faced, if one is thinking about higher education as a whole, is the creation of community colleges which would offer opportunities more limited than a degree, but more widely available. Everything which was known in 1963 about the workforce requirements of the economy would have supported the view that we needed several "technicians" (or the equivalent) to every graduate scientist, technologist or administrator, and that our means of developing such people by part-time study were deficient.

Surely, too, the noble aims stated by Robbins – the promotion of the general powers of the mind, the transmission of a common culture and common standards of citizenship – were worth spreading to a larger number, even in a briefer form. But the phrase "full-time studies beyond A level", was taken, without discussion, to mean "degrees"; a lack of imagination which many of us shared in 1963, and which has caused British higher education to miss some of its best opportunities.

But if a report says, with elegant lucidity, what you want to hear you do not look too carefully for the things which it leaves out. We in the universities wanted to hear that we were fine fellows and that the highest public good would be served by our continuing, with small changes, in our accustomed ways, while other parts of higher education either became universities or adopted large parts of the same ethos. Robbins offered no real challenge to that ethos.

To take a further example, it was odd that a committee headed by an economist gave no substantial attention to the cost-effectiveness of the costly programme which they were recommending. The author of the celebrated definition of economics, as the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses, appears here to have forgotten that what he claimed for higher education would be taken away from other things, perhaps no less worthy.

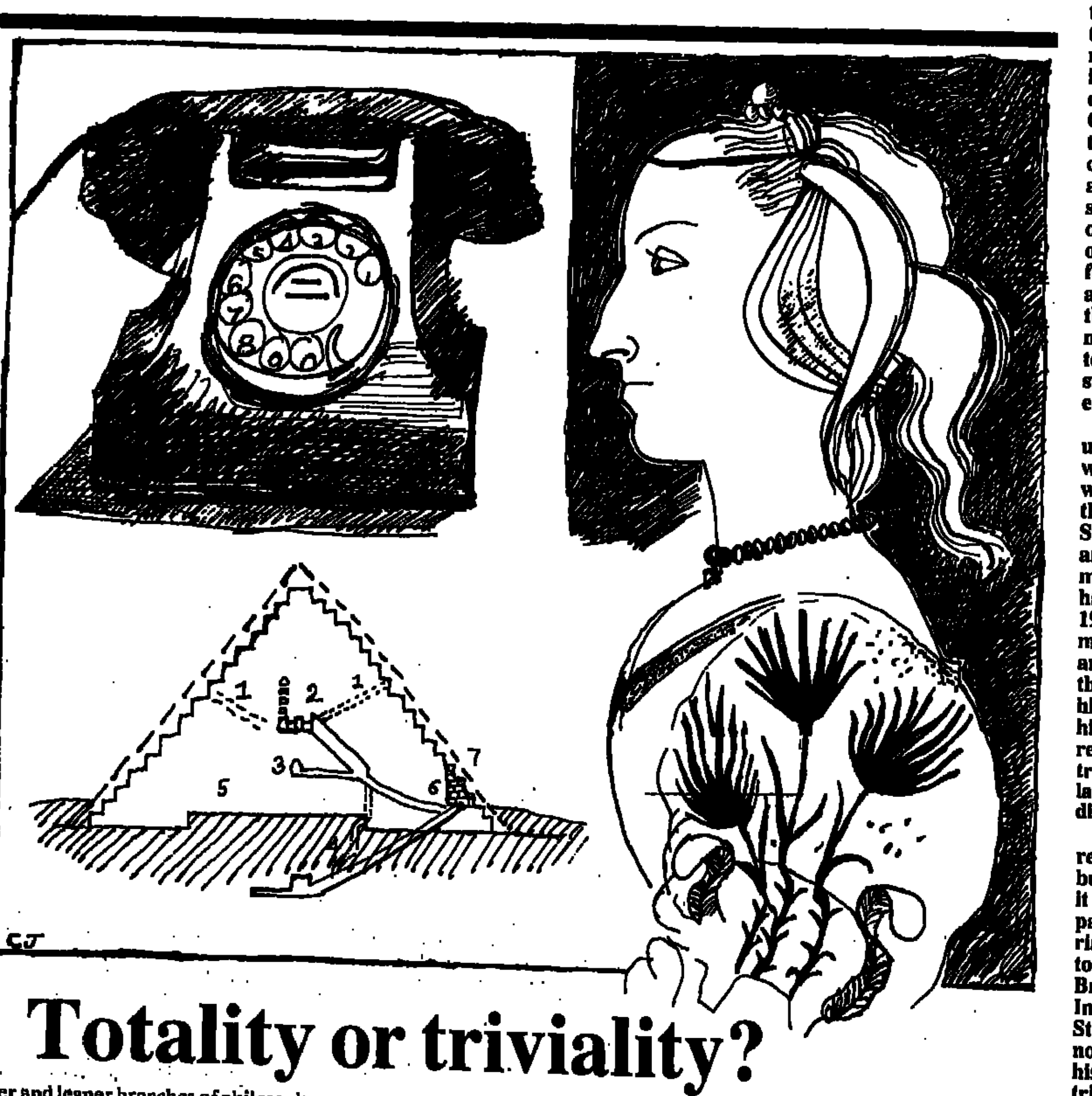
Was it not worth asking whether 24 teaching weeks in the year might be a bit low; or enquiring how some other countries manage to achieve good academic standards with a worse staff/student ratio; or asking whether the money spent in taking students from their homes and keeping them in residence might have been better spent in widening the range of those to whom higher education was open?

In 1963 we were all impressed by the research base of this great enquiry, set out in its six volumes of appendices. As the report said: "There has never been a comprehensive survey of the field of higher education in the sense in which we have decided to use that term." Much credit is due to the committee and its staff, not only for the volume and quality of the research, but for the speed with which it was done.

But the quality of fact-gathering was not matched by adventurous thinking about what the facts might imply, or profound consideration of the principles of the matter. This is my 1983 judgment, not of Lord Robbins, for whom I have the greatest affection and respect, but of myself in 1963, and all of us who then helped to create the web of conventional wisdom which was too strong for the Robbins committee to break.

The author was vice chancellor of the University of Lancaster from 1963 to 1979.

For more than a generation historians have practised, preached, and resisted the "new history." The once dominant preoccupation with political history and once popular style of literary narrative have given way to new interests, first in broader social and economic history and later in the insights of the social sciences preeminently sociology and anthropology and the potential of computer-based quantification. But is the "new history" beginning to show signs of creeping middle age? We asked six leading historians with different perspectives to contribute their views to a symposium on the achievements and the limitations of the "new history."



Totality or triviality?

I am inclined to distrust discoveries or developments which are heralded as "the new . . .". It is a linguistic habit common among those who are presumptuous, inarticulate or both. It beckons us on to notice a change in fashion rather than to attend to the progress of truth. Even in the better instances, as with the "new world" and the "new left" there is considerable extravagance followed by much disappointed hope.

The "new history" strikes me as being a peculiarly ill-fitting and unseemly expression. I don't know what it means. But if it resembles what I imagine it to be, then I have quite a complicated attitude towards it.

My guess is that the new history tries to be total with respect to its subject matter; inter-disciplinary and comparative with respect to its method; gregarious in its disposition; and co-operative in its way of carrying-on.

The call for "total history" is welcome in so far as it is a protest against the reduction of history to a number of separate compartments each of which is exclusively reserved for an elite. This tradition is still influential. It is not a matter of one or two dons at Cambridge still deluding themselves that political history can be understood as the history of *haute politique*. One of the bravest and most radical of English historians is just as proud and partial as they are. He is quite as impatient with "history from below" and does not waste his time on people who were not in the Cabinet. The new history while proclaiming itself to be total, freely admits to a bias in favour of workmen, women and other neglected groups. So far, so good!

The problem with total history is that it does not know how to identify *triviality*. In full flight from what may well have been a Stalinist past, the new historian affirms that nothing that is of mankind (or womankind) is alien to him (or her). This makes for excellence in moral, rather than in historical, practice – as Lord Acton discovered when he tried it. Historians of classical antiquity may just about manage total history, but for the rest of us half the trick is to discover what to leave out.

The trivial is what stands in a random or inconsequential relationship with everything else. This is the antiquarian's country. The new historian is not critical enough of the antiquarian. The new historian is frequently in danger of becoming a folksy sort of antiquarian. He needs to recall Darwin, not merely on the difference between facts and grand facts, but on the good observer who has to be an active theorizer.

Now the new historian considers that he must be an "active theorizer" already, since he is enthusiastically in favour of inter-disciplinary method. Alas! It is not as easy as that. First, this historian will be found to favour some liaisons far more than others. He is for geography rather than economics; for linguistics rather than mathematics; for anthropology rather than the harder and leaner branches of philosophy. In particular, there is a barely concealed hostility towards quantitative methods. He notices – quite rightly – that these tend to become ends in themselves. He fails to notice that that applies to his own enthusiasm for oral history. He sees the quantifier closing the door on imagination, but rarely understands how the quantification might help to open it.

Second, the new historian rarely discusses how the claims of historical specificity and the fearful discipline of chronology must limit his association with the social sciences. If he knows that economic history cannot just be the economics of the past any more than social history can be the sociology of the past, he knows it instinctively.

He rarely, if ever, can be found explaining how the historian's responsibility for the recovery and comprehension of a unique past occurrance is to be positively related to the social scientist's quest for laws or statistical regularities. (Of course, it can and must be done. It will not be done by the subjection of the historian's craft to some ultimate, external control.)

Quite the most positive feature of the new history is the wonderful challenge it has mounted against the individualist research culture. This does not mean that one must spend one's life organizing endless meetings where success is measured by the number of people who come along and the number of contributions – however idiotic – to "the discussion". It does mean getting historians into closer working relations with one another through regular seminars, conferences and workshops. In particular, it means confronting the appalling state of miscellany, neglect, introspection and despair among postgraduates in so many history departments. In most of them the postgraduates come last – after the bread and butter work of dealing with the undergraduates and after the imperatives of the teacher's own research.

Little or no thought is given to the cultivation of concentrated and inter-related areas of research which the postgraduates might occupy. The Universities of Hull and Warwick are among the few at which any effort has been made to develop the appropriate archival supports. Chairmen of the SSRC suggest a need to learn from the research culture of the natural sciences (about which they know nothing) in preference to a comparative study of the successful completion rates of history departments and centres (about which they are afraid to learn anything).

"Measurement and publicity" would lead to "embarrassment and distress" and might result in a form of equity which ignored established status. If only it would straighten its tie and pull its socks up, the new history could have a useful effect.

Royden Harrison

The author is director of the Centre for the Study of Social History at the University of Warwick.

Just a new name for an old concept

The new history, or that to which we give the name, is an inappropriate concept given the fact that the phenomenon emerged in France at least as early as 1929. Has the new history still got a future?

My answer is "yes", for the very same reason (all differences of scale allowed!) which will prompt the Saudis to continue, though presumably not for ever, extracting oil from under the desert sands.

The historical or "new historical" deposits have not been exhausted. How did it come about that academic historians adopted a scientific viewpoint; how did quantitative assessment become part of some fields which are so typical of the much-vaunted new history?

Statistical investigations, concerning prices, popular beliefs, the physical stature of human beings, literacy, remain indispensable for defining economic, religious, cultural conditions or the standard of living according to the *particular* facts.

Equally, can we reasonably do without the help of the social sciences in the characterization of a culture, a social class or an epochal moment in the evolution of a nation or community?

Since the work of Postan and Guy Bois, neo-Malthusian models have been crucial to our understanding of the fourteenth and fifteenth centuries, from the Black Death to the Renaissance, and no superficial or dogmatic conflation of Marxism with an artificial politicization of the past, will persuade me otherwise.

Can we really simply recount an anecdote about the substitution of one husband for another in a French village of the sixteenth century, as Nathalie Davies so brilliantly does, without following her elegant example and evoking the ancient myth of Amphitryon or without Rene Girard's analyses which come from disciplines other than history and which inhabit some invaluable interdisciplinary middle ground? I'm thinking of those of Girard's studies which are concerned with "mimetic" violence and with the community's need to eliminate a double which puts the social order at risk.

Can we understand aristocratic hierarchy without referring to the ethnologist Louis Dumont's reflections on inequality in ancient India and on equality in Europe? Can we ascribe their true value to the division of French society into three "estates" without referring to the discoveries of the history of religion or to the ideas of Dumezil on Indo-European social "trifonctionnalite"?

The key-notes seem to me to remain, as always in the new history, the quantitative and the interdisciplinary. This is by no means to say that conventional narrative history has gone into decline nor, conversely, to suggest that it will ever regain its past monopoly.

Those who celebrate its return seem to forget that in a number of disciplines which begin within the purview of the 20th century, narrative has not dissappeared; it has quite legitimately kept and will continue to keep its former place, one that is both necessary and fundamental.

(Translated from the French.)

Emmanuel Le Roy Ladurie

The author holds the chair in history of modern civilization at the College de France, Paris.

Group memories

The term "new history" is nowadays used in so many different senses that I am grateful to the editor for his firm definition of it. It has jogged my memory and enabled me to recall that in the 1950s I did myself belong to an informal group of new historians. That was in Oxford, and our immediate target, as with so many other groups, was to reform the Oxford history syllabus. We found the existing syllabus too scholastic, considering that it encouraged dons and undergraduates to pore over the same texts and the same problems over and over again. We wanted to open up the subject by making foreign history at least as important as English history, and by breaking the tyranny of political and (even more) constitutional history in order to make way for interdisciplinary studies, particularly if they were economic or sociological.

Of course we were not entirely united. The medievalists among us were always troubled by the way in which the modernists tended to lay the blame for all the old evils on Stubb's *Constitutional Documents* and Latin. We would point out that medieval economic and social history had been a boom subject since the 1930s at least, and had attracted major works by sociologists, social anthropologists and Marxists – one of the latter being a genuine Soviet historian – so that for medieval history the new history could work no revolution but only consolidate a tradition already established in England. It was clear that the modernists did not really believe us.

Our group did not succeed in reforming the Oxford history syllabus, but many of the ideas for which it stood have been accepted. In particular, many more British historians now specialize on foreign history. In 1950 the insularity of the British was actually attacked in the International Congress of Historical Studies. Now such an attack would not longer be valid, because British historians are making important contributions (if I may give some examples from the medieval period) to the history of France, Spain, Italy, Byzantium, Germany, Scandinavia, the Papacy and Islam.

Another obvious, but perhaps less desirable, achievement is the decline of constitutional history. In some ways this is a curious phenomenon, for what has happened is not that historians have ceased to write about Magna Carta, Parliament or the deposition of Edward II, but that they no longer consider them in a constitutional way, preferring to explain them in terms of social history, particular attention being paid to noble factions in a manner reminiscent of the work of Lewis Namier. Declining interest in central government has also led to an increasing number of local or regional studies. These sometimes suggest that the historians concerned are seeking for alternative societies, as is often quite obviously the case when these studies touch Scotland, Wales and Ireland.

Having said this, I have an uncomfortable feeling that many of my colleagues will think that I simply do not know what the new history was. They will not agree about it themselves either. Some of them identify it with the (one-time) French school which considered that no historical study had depth unless it started with the economic and demographic facts and proceeded to the social structure before passing on (if its author so wished) to intellectual, religious or political developments. Others identify it with studies of how the people or the working classes, "really lived". Others are content to call it simply "social and economic", or to identify it with the journal *Past and Present*. But they are all likely to insist that theirs is the only valid type of history and that, surely, is a pity.

R. H. C. Davis

The author is professor of medieval history at the University of Birmingham.

Meeting the challenge

I am never quite sure what people mean when they talk of the "new" history, but my impression is that they have two separate trends in mind. The first is the extension of historical writing outside its traditional subject matter of politics, wars and diplomacy to include an altogether wider range of topics – the history of crime, or of children, or of table manners or of attitudes to death, to take some characteristic instances.

This development seems to me wholly for the good. History should comprehend the whole of human experience and there was never any case for artificially limiting its content. My only regret is that most of the advances in this area have been made outside this country, in France in particular but also in the United States.

But by the "new" history is also meant the extension into historical writing of the influence of the social sciences – economics, sociology, anthropology. Here also I think that resistance to the new developments has been misconceived.

History has never been an autonomous discipline. Historians, narrowly defined, have no monopoly of interest in the past and are not the only people who contribute to its understanding. It would be easy to draw up a long list of indispensable historical works written by geographers, lawyers, economists, theologians, anthropologists or students of literature. Many aspects of the past – the history of climate, say, or the history of epidemics – are quite inaccessible without the help of scientists reared in other disciplines.

There is no area of past experience which can be roped off as the exclusive domain of so-called historians. History does not have its own special subject matter, in the way that geology does or mathematics. It embraces the whole of the past; and thus overlaps with the historical dimension of all humane subjects.

Not only do historians lack a separate territory of their own in which to operate. They are also without any distinctive intellectual equipment.

As Sir George Clark remarked in his introduction to *The New Cambridge Modern History*, historians must always depend for their general ideas upon non-historical work. They live parastically upon other disciplines and they bring to their work assumptions about the way the world works which are derived from economists, sociologists, psychologists, anthropologists and human scientists of all kinds. This is as true of the most old-fashioned and resolutely commonsensical historians as it is of the *avant-garde*. They all draw on social science, even if they do not know it.

The only issue, therefore, is that of whether historians should pick up assumptions about human behaviour casually and unsystematically (with all the risks that that involves) or whether they should deliberately educated themselves by trying to find out what their contemporaries in other disciplines are up to. All that is new about the "new" history is that its debt to the social sciences is more self-conscious and more explicit.

I was interested to notice that when the leading Italian historian Carlo Ginzburg visited Oxford a few years ago, he did not want to see the history section in Blackwells' bookshop; he went straight to the anthropology department.

As Marc Bloch put it, a good historian must be a person of his time, open to new knowledge. Of course, he should be critical and discriminating in his use of other disciplines.

The social sciences cannot be mechanically applied to historical material; only too often their own theoretical assumptions as unhistorical, founded on an insufficiently wide range of human behaviour. Nor is it only in the social sciences that historians should be educated.

Acquaintance with literature, theology or art is just as important, perhaps more important. What really matters is that the imagination of historians should be stimulated, their range of sympathies and sensibilities broadened, their conceptual apparatus widened.

During the past 20 years there have been signs that this is happening. Certainly the range of historical subject matter has been decisively enlarged. But in the UK the "new" history has not run its course; it has barely begun and its impact on the syllabuses of many universities remains disappointingly slight.

Our present worry should be whether our undergraduate and graduate training in history is still not too narrow, whether it can hope to produce future historians whose knowledge and sympathies are sufficiently wide to meet the challenges which this greatly enlarged subject now offers.

Of course, keeping up with intellectual advance on all fronts is an impossible task. But how can we convincingly interpret the history of all human experience if we do not try to do so?

Keith Thomas

The author is reader in history and fellow of St John's College, Oxford.

Movement is the key to development

"The new history", for which large claims have been made, is not all that new, at least in its basic premises. Those who cry up its novelty seem not to know the best historical writing of the past. Of course the tradition of narrative political history is longer and more continuous. Therefore it is easily considered normal and any deviation from it a novelty. But the deviation did not begin yesterday. Ever since the eighteenth century, historians have looked both below particular political events to the determining social structure, and beyond them to the corrective example of other societies. Montesquieu, Gibbon, Adam Smith brought into history the "new" sciences of anthropology, sociology, economics. Our recent innovators have merely sophisticated these sciences, converted them – legitimately – into specialist studies, and sometimes – less legitimately – buried history beneath them.

For history is essentially change, movement. The pace and direction of movement may be controlled by structural realities, but the movement itself must be recorded in chronological narrative. This is an absolute necessity. History without movement is not history at all; and movement is determined, at every level, by politics, human decisions, events.

I welcome the extension, and deepening, of history by these "new" sciences and techniques, which are constantly being improved. The danger comes when these sciences come adrift and usurp the title, or claim to hold the key, of history. History then becomes static and loses its essential organic life. This is a degeneration to which all humane studies are liable, especially when they are academically organized. Look at the *Annales* school in France. Its earliest volumes were a challenge to purely narrative history – *histoire événementielle* – and to the antiquarianism of the *Ecole des Chartes*. It revitalized history by levying contributions from sociology, geography, economics, and adding the new concepts of intellectual relativism, *mentalités*, and of psychology. But look at those volumes now. They are now fatter than ever, and the movement slower. Sometimes it seems to have stopped altogether. The ancillary sciences have taken over and the coordinating thread has gone.

I have mentioned psychology and intellectual relativism. Sir Lewis Namier's transformation of British eighteenth century history arose from his interest in psychology: he recognized that public behaviour is not to be explained solely by public professions; and this recognition led him to explore other motives. So psychology led to prosopography, collective biography. Psychology – and anthropology – have also helped to explain such important historical phenomena as collective panics: fear of popery in post-Reformation England, the witch-craze, anti-semitism, McCarthyism. But degeneration has set in with the recent fashion of "psycho-history", which has plumbed the depths of absurdity in America – for instance, when Hitler's political career is explained by speculations about his early "toilet-training".

Intellectual relativism – the recognition that the mental processes of the past (or of other societies in the present) are different from those of the present (or of our own society) – is another important and irreversible innovation. Macaulay could write confidently that educated men were always equally rational – with his rationality. No historian believes that now. Lucien Fèbvre, the founder, with Marc Bloch, of the *Annales* school, pointed the way forward. The historians of the Warburg Institute, by using iconography to reconstruct the "world-picture" of the past, have improved it. Our view of the Renaissance is very different from that of Michelet or Burckhardt or J. A. Symonds. Anthropologists have done the same for other modern societies: to read Evans-Pritchard on witchcraft among the Azande is as exciting to a historian as to read Frances Yates on Renaissance Platonism. But even here we must not exaggerate. The study of *mentalités* is a natural development of *Kulturgeschichte*, the discovery of the German Enlightenment.

In short, I believe in the "new history", but not as a revelation, or a revolution. Historical study, like history itself, is forwarded by continuity, not revolution.

Hugh Trevor-Roper

The author, Lord Dacre of Glanton, is master of Peterhouse, Cambridge.

Signpost which is pointing in the wrong direction

I am sceptical about the label "new history". It seems to set up a misleading signpost. History is what historians decide to do; rather than look for a new history it seems easier to discern new historians – still a somewhat pretentious term but at least one which indicates something familiar for the last couple of centuries or so: the fact that from time to time some historians, consciously or unconsciously, continue to have new ideas. Such ideas are not concerned with the canons of historial morality and good manners – accuracy, relevance and argumentative rigour – but with matters secondary to these. Sometimes they direct historians to topics they have neglected. Or they lead to the exploration of familiar topics by way of data not till then thought relevant. Or they may show familiar evidence to have unexpected significance. Or they may open the way to new methods of examining and utilizing evidence.

The editor has asked us to consider, in particular, the use by historians of new ideas drawn from the social sciences. It is easy to see why historians should look that way; they write about the past of societies and both the interpretative frameworks and the technical devices of the social sciences appear to them to be applicable to their work. Such attention does not, though, appear to have had a very clearly defined effect. Economic historians have been attracted by the promise which appears to be held out be sophisticated economic analysis, but a cursory survey of the *Economic History Review* in recent years suggests that no very striking reinterpretation has followed, nor has mathematics yet displaced prose in its pages.

Commonsense readily suggests explanations why this should be so, but an example of what can be done is perhaps more helpful. A few years ago, some fascinating discussion was generated about the role of railroad-building in the growth of the nineteenth-century United States economy. It originated with an investigation of such gross quantitative data as was available and its use in association with a counter-factual argument. *Grossomodo*, the argument was that we could understand what the importance of investment in the railroads was by trying to imagine what the economy would have been like without it.

Whatever specific judgments specialists now accept as a result of the debate this awoke, it seems to me that the overall effect was a clear gain in historical knowledge and understanding. Of course, the limits of the approach were evident. First, it was unusable for most of the recorded past and many important topics; adequate quantitative data is not usually available. We could never put the counter-factual argument sufficiently tightly, for example, to decide what really was the effect upon the Mediterranean economy of the flow of bullion released by Alexander's Persian conquests, for lack of figures. But another limit is inherent in the nature of the counter-factual argument itself. To apply it we have to restrict the related variables and this rapidly becomes an arbitrary matter, as hazardous in history as in social policy (one might remark). We cannot say that the resources put into Egyptian pyramids, medieval European cathedrals, or modern superpower space programmes would – or would not – have been available and used for other purposes had these investments never been undertaken. The relevant social and political mechanisms might permit alternative specific expenditure conceivable to the historian – or might not. Once such qualifications are recognized, nonetheless, the counter-factual approach in appropriate cases attracts me very much. It seems clear, too, that it is wholeheartedly to be welcomed as a pedagogic device: all teachers of history should be encouraged to play with it.

Most successful borrowings by historians from other disciplines are probably less formal than economic history suggests. Anthropology has been a subject of whose interest to them historians have been aware for some time (and perhaps longer than all of them would recognize, a glance at Jolliffe's *Constitutional History of Medieval England*, published in 1937, suggests). What historians take from the work of anthropologists is not always formally very evident, but it has been deeply significant. An instance is the work of Mr Keith Thomas, suffused as it is with an anthropological awareness, although this is concealed by a disarming (and very English) empiricism of tone. A much more explicit attention to anthropology can be found in the writings of Professor Peter Brown: in his seminal discussion of the Holy Man in the Near East of Late Antiquity, or his comments on the significance of trial by ordeal there is a continuing, direct, and critical commentary on the topic in a specifically anthropological perspective. Yet, in the end, there is a sense in which the work of both these historians conveys the same impression about what one subject can lend to another: the importance of their anthropological reading to each of them appears to lie in the catalyst it provides for the imagination. The change was personal before it was professional, and it was rooted in an extension and intensifying of sensi-

This is perhaps the moment to recall that historians do not cull new ideas only from academic sources. Perhaps exile (in California) is at this moment feeding experiences to Professor Brown which will one day prove not to have been valueless to the historian of a dissolving *Romania*. Literature, art, politics and many other stimuli, the work of other historians not least, all fire new trains of thought and enquiry in historians' minds. All of us are aware of some few, decisive departures in our thinking which began with a conversation, a picture or even a book, and ended in a new crystallization, even if we cannot exactly say why. Sometimes personal excitement leads to disappointment or false trials. Namiers' least successful book (admittedly, posthumous) was the one which he appears to have hoped would show most clearly the benefit of his enthusiastic and protracted browsing in the literature of psychology. Psychoanalytical history, at least (whatever may be claimed for other sub-divisions of the fashionable "psycho-history") must surely always be vitiated by the fallacious parallel between the recorded behaviour which is all the historians can use and the (in principle) guidable and modifiable behaviour of the patient which the analyst directly observes. The historian can do just as well in approaching the understanding of a man's outlook and motivation by much more traditional means.

As the editor has only asked for some personal reflections on the "new history" and not for a comprehensive assessment, perhaps the matter can be left there. My own conviction is that the bees will pollinate and the flowers bloom best if we do not turn the garden over to the latest and best-promoted products of plant-breeders and pesticide manufacturers. All good historians will consider what the social sciences can offer them, but they will also draw on new ideas from many other sources and this may be just as helpful. There are no golden keys waiting to be found to unlock the whole past, because the past waits behind no single door. There is not even one past, once and for all definable, surprising thought this may be to non-historians. All historians, whether they admit it or not, are nominalists. The "new history" is only a very recent set of contributions – somewhat over-defined and consolidated, for obvious reasons – to the process of stimulating them.

John Roberts

The author is vice chancellor of the University of Southampton

NOTICE BOARD

Chairs

The University of Sheffield has announced appointments to five chairs. Professor Patrick Collinson, professor of history at the University of Kent at Canterbury, has been appointed to the chair of modern history; Dr Peter Calow, reader in zoology at the University of Glasgow, succeeds Professor F. J. G. Ebling in the chair of zoology; Dr Walter Nimmo, also formerly of the University of Glasgow, takes over the chair of anaesthesia; Professor Andrew Rogers, foundation professor of human morphology at Flinders University, Australia, has been appointed to the Arthur Jackson chair of anatomy and cell biology.

Dr Jean Ruddock, former senior lecturer in the Centre for Applied Research in Education at the University of East Anglia, has been appointed to the chair of education in succession to Professor J. P. C. Roach.

The University of Manchester council has appointed Dr Robert W. Scapens, senior lecturer in accounting, to be professor of accounting in the department of accounting and business finance. Dr Maurice W. Wright, present reader in government will become professor of government.

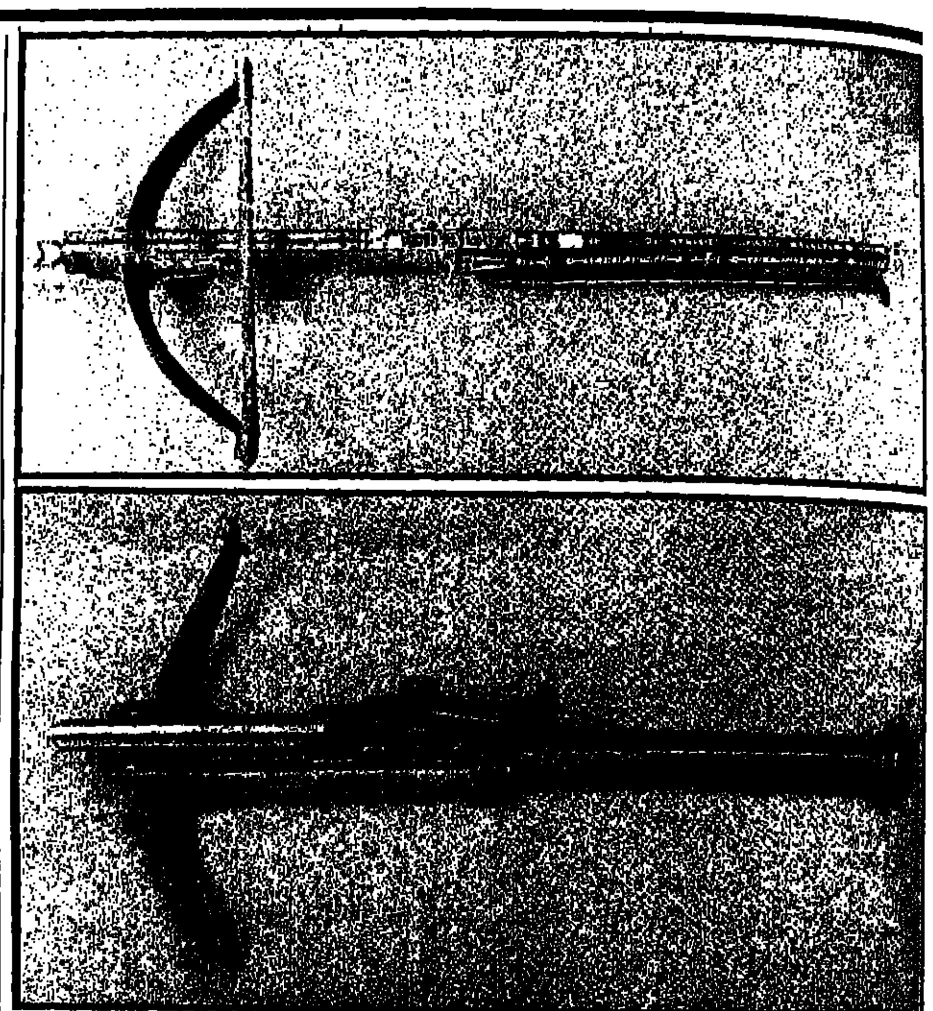
A senior lecturer in the department of administrative studies, Monash University, Australia, is to become professor of overseas administrative studies in the department of administrative studies for overseas visiting fellows. Mr Peter Bowden is an expert in central monitoring and evaluation of Third World development. Another Australian, Mr Kevin Grant, director of the department of geriatrics, Royal Newcastle Hospital, New South Wales, becomes visiting professor of geriatric medicine.

Professor Geoffrey Warner has been appointed to a new Open University chair in European humanities studies. He comes to the OU from the University of Leicester, where he was professor of modern history. Professor Warner's publications include *Pierre Laval and the Eclipse of France*, and many articles and papers on the history of the Cold War and post-war Europe.

James Elder, reader in surgery at Manchester University and honorary consultant surgeon at Manchester Royal Infirmary, has been appointed to the first chair of surgery in the department of postgraduate medicine at the University of Keele.

Awards

The Royal Society has announced the award of 35 research fellowships under the European Science Exchange Programme: Deborah Allen (department of viral mediated cell differentiation, Imperial Cancer Research Fund Laboratories, London, to Institut für Genetik, University of Cologne); Nigel Berman (department of astronomy, Manchester, to Astronomical Institute, University of Amsterdam); James Best (department of geography, Birkbeck College, London, to department of physical geography, University of Uppsala, Sweden); Timothy Blackwell (physics division, school of mathematical and physical sciences, Sussex University, to University of Paris-Sud); John Boyle (Grant Institute of Geology, Edinburgh University, to Geology Institute, Bergen, Norway); Charles Carey (school of mechanical engineering, Cranfield Institute of Technology, to Institut Francais du Petrole, Paris); Leslie Chewter (Royal Institution, London, to Institute for Physical and Theoretical Chemistry, Technische Hochschule, Munich); Ian Colgreave (department of pharmacology, St Mary's Hospital Medical School, London, to Karolinska Institutet, Stockhold, Sweden); Christopher Counsell (department of chemistry, Southampton, to Eidgenoessische Technische Hochschule, Zurich); John Dalrymple-Alford (department of psychology, University College, Swansea, to laboratoire de neurobiologie des comportements, Universite Louis Pasteur, Strasbourg); John Davies (department of botany, Glasgow University, to Lehrstuhl für Pflanzenphysiologie, Ruhr University, Bochum, FRG); Timothy Dempster (Grant Institute of Geology, Edinburgh University, to Abteilung für Isotopengeologie, Bern); Christopher Dewdney (department of physics, Birkbeck College, London, to laboratoire de physique theorique, Institut Henri Poincare, Paris); Dr W. S. Downey (school of physics, Newcastle upon Tyne, to istituo di geologica, University of Naples); Ian Firth (Imperial College, London, to Station Federale des Recherches Agronomiques de Changins, Nyon, Switzerland); Gaynor Green (department of biochemistry, Liverpool University; to institut de biologie moleculare et cellulaire, Centre National de la Recherche Scientifique, Strasbourg, France); Stephen Green (department of biochemistry, Liverpool University, to laboratoire de genetique moleculaire des eucaryotes, Institut de Chimie Biologique, Strasbourg); Adrian Hailey (department of zoology, Nottingham University, to University of Thessaloniki, Greece); David Hicks (department of biochemistry, University of British Columbia, to group de recherches sur l'immunologie de la differenciation, Broussais Hospital, Paris); Valerie Hopwood (department of microbiology, Leeds University, to unite de biologie et de biochimie parasitaires et fongiques, INSERM, Villeneuve d'Ascq, France); Jonathan Hughes (school of agriculture, Nottingham, to Institut für Biologie II/Botanik, Albert-Ludwigs University, Freiburg, FRG); Roselyn Jackson (department of oceanography, Southampton University, to Delta Institute for Hydrobiological Research, Yerseke, Netherlands); David Jefferies (department of biology, Salford University, to Schweizerisches Tropeninstitut, Basel, Switzerland); Mark McDowall (department of chemistry, University College, Cardiff, to institut für physikalische chimie, University of Bonn); Dr Alexander MacRobert (physical chemistry laboratory, Oxford University, to fakultaet für physik, University of Bielefeld, FRG); Gay Mitchelson (department of physical oceanography, University College of North Wales, to laboratoire de physique et chimie marines, Station Marine de Villefranche sur Mer, Universite Pierre et Marie Curie, France); Graham Moore (department of biochemistry, St George's Hospital Medical School, London, to Institut Pasteur, Paris); C. D. O'Connor (department of microbiology, Liverpool University, to departement de biochimie medicale, University of Geneva); Barbara Osikowska-Evers (department of clinical pharmacology, St Mary's Hospital Medical School, London, to Medizinische Klinik, University of Bonn); Dr Krishna Persaud (department of biochemistry, Newcastle upon Tyne, to istituto di industrie agrarie, universita degli studi, Pisa, Italy); Sarah Rees (mathematical institute, Oxford University, to department de mathematique, Free University of (Brussels); E. Malcolm Smith (university engineering department, Cambridge University, to Deutsche Forschungs-und Versuchsanstalt für Luft- und Raumfahrt e. V. Wessling, FRG); Dr Michael Smith (department of chemistry University of Minho); Dr P. P. Welch (mathematical institute, Oxford University, to seminar für logik und grundlagenforschung, University of Bonn); Ian Winfield (school of biological science UEA, to institute of limnology, Lund).



The elegant and the functional: two crossbows from a loan exhibition at the International Arms and Armour Exposition at the Dorchester Hotel, Park Lane, London during November. The Spanish hunting bow from the sixteenth century (top) is decorated with panels of engraved and pierced bone and features a whistle in the stock. The Venetian assassin's crossbow (below) is coldly precise. The weapon was banned under sixteenth century Venetian law.

Appointments

MANCHESTER: Lectureships: T. M. Hopper (accounting); Dr Norman Calder (Arabic language and literature); Dr M. W. Whiteley (chemistry); Dr D. E. Rydeheard (computer science); Dr G. T. R. Droop (geology); Helen M. Curtis (health education); Barbara R. Duncan (health education); Dr C. A. Morrison (immunology); F. A. K. Yasamee (Islamic history); S. J. Coneys (law); Dr Andrew Hulme (mathematics); E. M. M. Quigley (medicine); M. A. M. Arafa (orthopaedic surgery); Dr G. D. Lafferty (physics); Dr G. J. McGrath (psychiatry); Dr D. J. Axon (radio-astronomy); D. G. Shepherd (Russian); Anne Hesketh (speech pathology and therapy). Professor Tony Kennerley has joined the Business Graduates Association as a part-time director. He was formerly director of Strathclyde Business School, University of Strathclyde, and has been chairman of the Conference of University Management Schools for the last two years.

NEWCASTLE UPON TYNE: Lectureships: Mr J. Pooley (orthopaedic and traumatic surgery); Mr R. Power, (psychiatry); Dr C. P. F. Redfern (dermatology); Dr S. J. Dodd (architecture); Dr H. A. Armstrong (geology); Dr J. W. Bruce (pure mathematics); Dr J. D. Elliott (organic chemistry); Mr A. E. Gillespie (geography); Dr R. Henderson (statistics); Mr R. Hopkins (computing); Dr O. H. King (pure mathematics); Dr D. Manning (geology); Mr M. R. McLauchlan (computing); Dr J. A. Pearce (geology); Dr G. Chester (electrical and electronic engineering); Mr W. Hills (naval architecture and shipbuilding); Dr K. Warwick (electrical and electronic engineering); Dr A. L. Milroy (speech); Dr J. C. Mathers (agricultural biochemistry).

Grants

MANCHESTER: Professor M. I. V. Jayson, £32,405 from Arthritis and Rheumatism Council (rheumatology); Professor M. E. Grant, Dr Ana M. Schor and Dr S. L. Shor, £25,724 from British Diabetic Association (diabetic retinopathy); Dr Elizabeth B. Mawer, £41,257 from Central Manchester Health Authority (cutaneous synthesis of vitamin D3); Professor John Dobbing, £48,991 from Cocoa, Chocolate and Confectionery Alliance (research into obesity); Dr E. B. Bell, £50,419 from MRC (induction of autoantibody to IgE in rats); Professor A. A. Grant and Dr D. C. Watts, £47,921 from MRC (synergistic behaviour of resin-bonded ceramic restorative materials and hard dental tissues); Professor M. E. Grant, Dr Ana M. Schor and Dr S. L. Schor, £44,753 from MRC (synthesis of subendothelial matrix by endothelial cells); Dr D. B. Drucker, £41,109 from MRC (plaque formation and cariogenecity of specific streptococci); Dr D. W. L. Hukins, £36,180 from MRC (fibre reinforcing related to mechanical stability, function and failure in joint tissues); Professor J. G. Ratcliffe, £36,954 from North Western Regional Health Authority (labelled antibody assays in chemical pathology); Professor M. I. V. Jayson, £29,582 from Nuffield Foundation (biochemical analysis of strain concentration during flexion and tension of spine); Professor Michael Gibbons and Mr M. J. Turner, £3,136,000 from SERC (North Western Universities Consortium for Marine Technology); Professor F. C. Smith £513,900 from SERC (galactic and extragalactic radio emission); Dr R. J. Ellison and Dr Michael Ibbotson with Professor P. G. Murphy, £495,904 from SERC (elementary particle physics); Professor F. D. Kahn and Dr M. F. Bode, £61,750 from SERC (advanced fellowship in astronomy); Dr F. N. Teskey and Mr S. C. Holden, £48,070 from SERC (integrated information systems); Mr R. S. Quayle, £32,9[illegible] from SERC (integrated processor for high-speed polar to cartesian coordinate spectroscopy); Dr P. J. Eccles, Dr J. N. Ray and Dr Grant Walker, £27,700 and from SERC (associated complex transfer); Dr D. E. Hesmondhalgh, and Dr Dennis Tipping, £27,598 from SERC (high-speed sub-miniature electric motor); Dr F. H. Hayes and Dr D. G. Lees, £87,403 from SERC/Dubilier Scientific Ltd (direct on implantation of microcircuits); Professor G. B. Parry and Dr G. H. Moyser, £233,950 from SSRC (political participation in Britain); Dr A. J. Laite, £101,240 from SSRC (changing patterns of work and employment).

Events

Professor Nicolas Coldstream, Yates professor of classical archaeology at University College London, has been appointed to the Geddes-Harrower chair for Greek art and archaeology for the current session and will deliver a series of illustrated lectures under the title "The Greek Renaissance of the eighth century BC" on Mondays at 5.15pm in the national philosophy lecture theatre, Old Aberdeen. The first lecture was on Monday October 24 and the series will continue for six weeks.

The next History Workshop London seminar will feature Greg Lanning speaking on "Television History Workshop" at the Black Horse pub, Rathbone Place, W1 at 7.30pm on Monday, November 7.

The Trent Business School open lectures, given on Tuesday evenings (7.00pm to 9.00pm) at Trent Polytechnic's Chaucer building, Nottingham, are this year on the subject "Employment and the State". The series begins on Tuesday, November 8 with Professor John Eldridge of the University of Glasgow on "Industrial Relations and the New Right"; the series continues with Geoffrey Holland, director of the Manpower Services Commission on "Training for the '80s" on November 29; Bill Callaghan, secretary of the TUC economics department on "Employment, Government policy and the TUC" on December 6; and David Richardson, director of the International Labour Organization on "The role and significance of the ILO" on November 15. Details from Colin Love on 0602-418248.

There are still places available on a course for new and inexperienced editors of scholarly journals being held on November 16 and 17 under the auspices of the University of Leicester's primary communications research centre. The course, to be held at the Ciba Foundation in London, is designed to cover the basics of journal editing and production and will provide an opportunity for editors to discuss problems they have encountered in their work. Further information from Elizabeth Shaw, PCRC, University of Leicester, LE1 7RH, tel 0533-556223.

The University of Glasgow department of adult and continuing education is to hold six Saturday afternoon conferences on "Our nuclear world". Specific topics will include science and government, nuclear radiation, peaceful uses, NATO and military uses, disarmament and proliferation. Details of the courses and a registration form from Eric Liggett, University of Glasgow, Department of Adult and Continuing Education, 57/61 Oakfield Avenue, Glasgow G11 8LW.

Garnett College

Education and Training for Teachers and Administrators in Further Education

Applications are invited for the following courses:

MASTER OF ARTS – Council for National Academic Awards

A Master's Degree in further education extending over two years' part-time study and involving the inter-disciplinary study of the further education system and its curriculum. Candidates should be employed in the teaching or administration of post-compulsory education and should normally have a BEd (Hons) or other equivalent qualification.

M.PHIL AND PHD – Council for National Academic Awards

The College invites enquiries and applications relating to Research Degrees in the field of Further Education. Successful candidates normally possess a good degree, or equivalent, and wish to undertake research in a field related to Further or Adult Education.

BACHELOR OF EDUCATION – Council for National Academic Awards

Three years' part-time study. Prepares candidates for further study and research in further education. Candidates should be serving teachers with an initial teaching qualification and a minimum of two years' teaching experience.

DIPLOMA IN FURTHER EDUCATION – Council for National Academic Awards (Leading to the award of the Diploma in Professional Studies)

Two years' part-time study (or one year full-time) and involving the study of the theory of further education to first degree level. Candidates should be employed in the teaching or administration of post-compulsory education and should hold a Certificate in Education.

DIPLOMA IN TEACHING STRATEGIES – Council for National Academic Awards (Leading to the award to the Diploma in Professional Studies)

A two year part-time course, course members will explore recent advances in their subject specialism, course design and development, and trends in the organisation and management of further education. Candidates should be employed in teaching in further education and should have at least three years' teaching experience.

DIPLOMA IN EDUCATIONAL MANAGEMENT – University of London

Two years' part-time study. Aims to provide a sound academic grounding in educational management and an opportunity to improve management skills. Candidates should have substantial teaching and/or administrative experience in further education or associated fields.

DIPLOMA IN EDUCATIONAL TECHNOLOGY – University of London (for Further Education)

Two years' part-time study. Develops professional competencies in the management and organisation of learning resources. Candidates should have initial professional qualifications and be experienced teachers, librarians or administrators in further education or associated fields.

The College welcomes applications from all suitably qualified persons including those from minority or disadvantaged groups.

ilea

Candidates should apply as soon as possible, specifying the course(s) in which they are interested, to the Principal (Ref. THES), Garnett College, Downshire House, Roehampton Lane, London SW15 4HR. (Tel: 01-789 6533).

(858)

Open University programmes November 5 to November 11

Saturday November 5

BBC2
10.10 Energy in the Home. Are You Sitting Comfortably? (PST932; prog 2).
10.35 Open Forum: a magazine programme for OU [illegible] Graduate [illegible] Course [illegible] (S10) prog MAFS3).
11.00 [illegible]

Sunday November 6

BBC2
10.10 The First Years of Life. All Yours (P911; prog 2).
10.35 Childhood, 5–10. Family Matters (P910; prog 1).
11.00 Health Choices. Home Cooking (P921; prog 2).
11.25 Caring for Older People. Sharing a Home (P650; prog 3).

RADIO 3 (VHF)
6.55 Into the Open. 2: Writing Skills
7.15 Consumer Decisions. Consumers' Advice (P931; prog 2).
7.35 The Pre-School Child. Naughty Things (P912; prog 2).

There are no further OU broadcasts this week.

BOOKS

The Galileo of our times

by Kenneth O. Morgan

John Maynard Keynes: volume one
Hopes Betrayed, 1883–1920
by Robert Skidelsky
Macmillan, £14.95
ISBN 0 333 11599 6

Keynes is the Galileo of our times. He has revolutionized our view of the mechanics of our world as fundamentally as did the astronomers of the sixteenth century. Not only has he transformed our understanding of economic principles. He has had a unique and lasting influence upon public policy through his exposition of the role of counter-cyclical activity by the state to combat economic depression.

An up-to-date biography of this towering intellectual figure has long been needed ever since Roy Harrod's somewhat elliptical study appeared in 1951. Since then, we have had endless exegesis of Keynesianism as a doctrine, not least by the high priests of monetarism anxious to undermine the basis of its rationale. Keynes the man – what Pigou, back in 1904, called "the enigma of Mr Keynes" – has continued largely to elude us. Now Robert Skidelsky's first volume, taking the story down to the reception of *The Economic Consequences of the Peace* in 1919–20, admirably provides this much-needed addition to our historical literature. While an abiding judgment must necessarily await the second volume, covering Keynes's more public career from 1920 down to his death in 1946, it is clear that this important book will be of enormous value to economists, historians and all concerned with the major elements of our intellectual and cultural inheritance. Both as a personal study and as a history of ideas, it is a splendid achievement.

Mr Skidelsky, like Keynes himself, is a controversial, even belligerent, revisionist. His pages are studded with corrections, great and small, of previous authors who have ventured upon the interpretation of Keynes's life and thought. Presumably, some of them will reply in due course. He is especially scathing about Harrod's book as a guarded and, in part, deliberately misleading, account of a Keynes homogenized and sanitized, purified by the academic's seal of approval, to placate Keynes's intellectual and other "widows". Certainly, Skidelsky fully demonstrates that major aspects of Keynes's life were omitted, in whole or in part, by Roy Harrod. Keynes's homosexuality, promiscuous almost to the verge of self-destruction, not only with eminent Edwardians like Lytton Strachey and Duncan Grant, but with a host of lesser mortals from Truro to Tunis, is here given full prominence, as a vital key to the unlocking of Keynes's complex personality. The crucial influence of the Cambridge Apostles, recently given new notoriety by *l'affaire* Blunt, is said by the author (somewhat harshly in my opinion) to have been played down in the Harrod book, even though the Apostles, and the personal mystique of the saintly G. E. Moore in particular, were quite central to Keynes's intellectual and psychological development, his *entrée* into Bloomsbury, his linking of ethics and economics and much else besides.

On wider matters, Skidelsky emphasizes Keynes's opposition to the First World War, which he was helping the Treasury to finance. Over military conscription, Keynes came out far more decisively, if not perhaps more honourably, than was formerly claimed. This book is, then, a notable success in almost every respect. Like its subject, it is somewhat confined in outlook and shaped by the parameters of a certain style of English culture: but this is appropriate. It powerfully illuminates the activities and above all the mind of its great subject. As such it is a considerable addition to our literature.

A striking feature of this book about the greatest economist of modern times is how relatively little of Keynes's life was concerned with economics, at least down to 1914. He was a man of astonishingly broad culture. At Eton he carried off all the prizes, from Latin to chemistry. Much of his adolescence and early manhood was concerned, not only with absorbing the intense, competitive intellectualism and moral rigour of his parents (his father a university lecturer and administrator, his mother a daughter of the manse), but with trying to accommodate himself to late-nineteenth century Cambridge philosophy. As an undergraduate at Kings from 1902 onwards, he was largely preoccupied with trying to formulate a position in relation to the revised utilitarianism of Sidgwick or the Hegelian metaphysics of McTaggart. In the end, the gentle and highly introspective ethical philosophy of Moore, as propounded through the Apostles, provided the intellectual mainspring for which Keynes's early life was a quest.

John Maynard Keynes, a drawing by Gwen Raverat from 1908

NATIONAL PORTRAIT GALLERY

Keynes was a philosopher before he became an economist. Indeed, his philosophy underpinned his economic theory thereafter. He saw economics as an offshoot of logic, rather than of mathematics or statistics, despite his own extraordinary powers in these areas. The main intellectual preoccupation of the young Keynes was trying to write a treatise on probability theory (eventually published in 1921). He was also readily diverted into the more mystical realms of medieval history, for instance the works of Bernard of Cluny or Peter Abelard. And, increasingly through the influence of Strachey, Grant and many others, he was developing a growing interest in literature, the ballet and above all in fine arts. In the last analysis, it was the logical and aesthetic qualities of Lloyd George, Woodrow Wilson and the other politicians which so offended Keynes's refined sensibilities in Paris in 1919.

Much of his economics, from the time he became a university lecturer in Cambridge in 1908, was in its fundamentals entirely orthodox. His ideas were elaborations, highly intelligent and perceptive at all times, of the late-Victorian principles spelt out by the great Alfred Marshall. Keynes took for granted at this stage the quantity theory of money. He was a free trader, who believed in finite resources and a balanced budget. His economic interests, we are told, were narrower than those of Marshall or Pigou. When war broke out in 1914, his main achievement was to persuade the Liberal Government to retain the gold standard and the flow of specie payments. Though deeply hostile to bankers, he liked the assured world of the Treasury mandarins – "very clever, very dry and in a certain sense very cynical". The phrase might well have been applicable to Keynes himself. During the First World War, he was a fierce critic of the unorthodox finance of Lloyd George, and of the irrational policies of the Americans in threatening to stem the flow of funds into the City of London. Even his critique of the peace treaty was, in large measure, orthodox in its assumptions since his estimates of Germany's "capacity to pay" rested on traditional measures of assessment of national wealth, especially over the projected volume of future German exports. The breakthrough of the *General Theory of Employment, Money and Interest* was still a long way off in 1920. Much of his economic critique owed its effect to the literary panache of the author rather than to the novelty of its findings. Keynes might have observed, with Marx, that above all he was not a Keynesian.

The book is mainly about the private Keynes, his ancestry, his childhood and schooldays, his university career, his friendships and commitment to the values of the Apostles. Not all of it may seem attractive, even if it is always utterly absorbing. The public Keynes, fired with a new zeal for action by the evils of the peace treaty, is still largely to be unveiled. Down to 1920, indeed, Keynes was at his least convincing where politics are concerned. Perhaps this is marginally true of this biography as well, as an inadequate account of wartime politics and the postwar transition may suggest, Keynes, to some extent, was tone-deaf on politics, as Attlee was said to be on economics. He condemned politicians as a species – "their stupidity is inhuman". Lloyd George was "a crook", Clemenceau "empty of hope", Wilson "ignorant"; as were nearly all their associates. Down to 1914, Keynes took very little interest in political affairs, as befitted the inbred, stylized, self-regarding, very English world of the Apostles. The 1906 election, the new liberalism, the crisis with the Lords, largely passed the young fellow of King's by. A friend wrote to him in 1909 of how "Sodomy and the Budget" were the general Cambridge preoccupations with, no doubt, a preference for the former. His social philosophy was archaic; on the role of women, he was totally irrational.

During the war, his anti-political viewpoint was somewhat fortified by his friendship with the fallen Asquith and the patrician Sutton Courtenay coterie. Over conscription and a total commitment to the war, Keynes was philosophically opposed to compulsion. However, he shied away from the hard choices faced by some of his pacifist friends (Bertrand Russell, for instance): "Keynes has ratted", wrote Strachey. Keynes continued to work for the Treasury while consolidating some successful investment in securities on the side. He sought out "the high life"; he dined with dukes and Balkan nobility; he bought a Cézanne (for just £327), two Delacroix and an Ingres. Keynes was a soft-faced man who did rather well out of the war.

At home, he was patronizing or uncomprehending about Labour and the unions. Abroad, he viewed the Americans and other allies with suspicion. He joined McKenna in proposing a war strategy of withdrawal and subsidy which was not only impractical in political terms, but morally implied our continental allies doing our dirty work for us. At Paris in 1919, he was scathing about the "bamboozled" Wilson, and Lloyd George, "the goat-footed bard" who was "rooted in nothing" (that is, not a Cambridge man); but his critique is perhaps more satisfying to the literary critic than to the historian. It is, incidentally, disappointing that Mr Skidelsky slightly rushes things in his final chapters and has so little to say about the allegedly chauvinist tone of the "coupon election" in December 1918, which Keynes regarded as central to understanding the negotiations on German reparations. Keynes's discussion of this crucial issue rested in part on calculations of Germany's industrial and commercial recovery which later events did not substantiate. Nor did he draw any comparison from France's handsome "capacity to pay" after 1871. Underlying his philippic were a passionate pro-Germanism, inherited from his Francophobe father; a kind of love experienced for the unlikely, austere figure of Dr Melchior, a German financial spokesman; and a reluctance to admit the kind of pressures impinging on the peacemakers in Paris.

Mr Skidelsky's second volume will surely be as compulsively readable and intellectually fascinating as is this brilliant first instalment. It must, however, begin with a fuller analysis of Keynes's assessment of the international fiscal system and the economic problems confronting the European nations after 1918. That system and those problems were made the more intractable by the extraordinary literary success that Keynes achieved in *The Economic Consequences of the Peace*. An estimate of Keynes's creative genius as a transcendent economic theorist must, to some degree, be weighed against the unfortunate political impact of that irresistible, scintillating but in many ways wrong-headed book.

Kenneth O. Morgan's "Labour in Power, 1945–1951" is being published by Oxford University Press next year.

The new patrons

Patrons Despite Themselves: taxpayers and arts policy
by Alan L. Field, Michael O'Hare and J. Mark Davidson Schuster
New York University Press, $29.50
ISBN 0 8147 2572 4

The idea of indirect government aid to institutions providing cultural services should appeal to those who wish to see government support the arts without getting its fingers too far into the cultural pie. Such support rests on individual initiative and in the process decentralizes decisionmaking. The most important way of providing such aid is some form of tax relief to donors of funds or of gifts in kind to cultural enterprises. However, as this admirable study shows, any final judgment about the use of tax relief measures to support the arts depends on a much clearer delineation of policy aims and a fuller understanding of some of the side effects produced by such measures.

As Field, O'Hare and Schuster show, the progressive nature of income and property taxes in the United States means that the tax relief per dollar donated rises as income and property rises, so that the preferences of wealthy donors in the supply of resources to the arts have a much greater weighting than those further down the scale. As I have hypothesized elsewhere, wealthy donors derive utility from "memory preservation" of themselves or their families, which leads to the prediction that gifts will take the form of buildings and special collections to which the donor's name can be attached. This book supports this hypothesis by copious examples and rightly claims that this results in inefficiency in factor use. What would be the point of building some prestigious art gallery if a major part of the collection would have to be sold in order to pay for its running costs? This would be an extreme situation but it is uncomfortably close to reality. A tax relief system invites its abuse. The US system has encouraged museum curators to act in cahoots with wealthy donors so that the latter can milk the internal revenue through such dodges as "back dating" donations to maximize tax relief or by advance purchase of paintings which will only be donated after they have undergone capital appreciation.

The satisfaction derived from giving, partly at the expense of alternative uses of the revenue foregone through tax relief, is quite separate from the question of who enjoys the benefits as consumers of cultural services. Field *et al* show fairly conclusively that the wealthier and better educated receive larger per capita benefits from arts expenditure than the income-receiving population as a whole. Whereas measurement of benefits is, in principle, not difficult, determining who pays for these benefits is a complex matter for it entails the identification of an alternative fiscal position where tax reliefs to donors do not exist. Although the choice of such a position is essentially arbitrary, any reasonable alternative chosen produces much the same result: while the relatively well-off receive proportionately more of the benefits, they more than pay for these benefits and the system is therefore mildly redistributive. This explosion of the popular fallacy that tax reliefs in a progressive tax system inevitably benefit the rich deserves much wider currency than among arts buffs: the methodology and conclusions of this book, although well known to fiscal experts, might well apply to tax reliefs in general.

It is a pity that Field *et al* are not tempted to use their findings as the point of departure for a more general discussion of the finance of the arts, which would have increased the international appeal of the work. It is nevertheless required reading for British social scientists interested in the arts and for arts administrators. The latter in particular might at last be convinced that they have a greater responsibility than they at present accept to provide more expert appraisal of their policies and performance.

Alan Peacock

Alan Peacock is vice-chancellor and professor of economics at the University of Buckingham.

BOOKS

War themes

Encounters with Darkness: French and German Writers on World War II
by Frederick J. Harris
Oxford University Press, £20.00
ISBN 0 19 503246 2

Books of this kind, which use imaginative literature to recall historical events and describe their socio-political features, usually belong to one of three groups. They are the outcome of a vast amount of reading, a considerable degree of reflection or, in more rare and outstanding instances, a combination of these two things.

Frederick Harris's book belongs very much to the first of these categories. Its subject stretches in time from the fall of France, through occupation, resistance, Nazi racial doctrine and the concentration camps, to the final defeat of Germany in 1945. Harris rightly says that, in order to understand the war and its consequences in France, it is necessary to know something of the Germans and the society from which they came. He therefore read very widely in German as well as French imaginative writing devoted to the subject. The German novelists and playwrights include Remarque, Wiechert, Hochhuth, Goes, Böll and Grass, but there is no significant discussion of Nazi-inspired writings in German. On the French side, it is surprising to see Cayrol ignored, but the list includes Saint-Exupéry, Merle, Dutourd, Céline, Malraux and Sartre.

Despite this large corpus of literary texts, the use Harris makes of them leaves a lot to be desired. Because he employs them for essentially illustrative purposes, he offers little more than a paraphrase of the novels and plays to which he refers. On the rare occasion when he makes a judgment it can be alarmingly misplaced – as when he characterizes Claude Simon's *La Route des Flandres* as "an attempt to salvage something from the dissolution that ensued" (from the collapse of France and the signing of the peace treaty). In other words, the specificity of individual works, and the vast range of literary characteristics and qualities which they represent, are largely ignored. Furthermore, the degree to which individual writers were reliable witnesses of the events they describe is not discussed (in a fair number of cases they were not even witnesses). Their fictions are treated as direct factual accounts of incidents and attitudes in France and Germany during the period in question. So the picture which emerges needs to be treated with some caution. This amounts to saying, indeed, that Harris offers very little in the way of sophisticated literary analysis and only a limited amount of historical reliability. In addition, the writing is very uneven. Apart from stylistic infelicities such as "whom they had sort of befriended", "disinterested" is confused with "uninterested" and the use of "immanent" in place of "imminent" creates several unconsciously comical passages.

Within its own limited terms, however, the book is thorough. Each chapter has a series of subdivisions which at least raise interesting questions. The chapter on the French army, for instance, considers such issues as "the army in defeat", "hopes of going home", "attitudes towards the enemy", "discontent and accommodation" and "the breakup of the POW camps and the trip to Germany". The chapter on the concentration camps includes a section on local citizens and their response to the camps. These are all matters of considerable interest and it is useful to be told what various novelists and playwrights said about them, provided ficitional writing is not confused with historical documentation.

It is only in the three pages of his "epilogue" that Harris hints at the limitations of the book. In some final comments on the French resistance, for example, he says that it achieved the status of a legend. Even so, it was a legend of doubtful validity and one largely attributable to literary activity: "No doubt the *roman résistancialiste* helped to create and then perpetuate the legend that emerged from the Resistance, though that legend is today undergoing increasingly sober scrutiny from historians". It is also in these final pages that Harris finally recognizes the great literary variety among the texts which he has used:

> In France as well as in Germany the literature that has evolved from the war has shown a more marked tendency toward experimentation in theme and in formal structure as distance in time from the experience increases. To some extent this is a reflection of the highly experimental current that has swept through literature in the last three decades. But the very fact that the themes of World War II should have lent themselves to that kind of experimentation is significant. Günter Grass's tin-drummer Oskar, whimsically anti-heroic in his person and in his style of narration, would have been difficult to imagine right after the war, as would Michel Tournier's Abel Tiffauges . . .

Had points like these been recognized at the outset, a much more interesting and worthwhile book could have been written.

John Cruickshank

John Cruickshank is professor of French at the University of Sussex.

Jean Cocteau photographed in the 1930s by Cecil Beaton, from a new study of Beaton's work by Philippe Garner (Collins, £3.95).

At arm's length

Twentieth-Century French Literature
by Germaine Brée
translated by Louise Guiney
University of Chicago Press, £20.00
ISBN 0 226 07195 2

Professor Germaine Brée is widely acknowledged as one of modern French literature's most distinguished expatriate observers. In this book she endeavours to trace the course of French literature from the postwar years of the 1920s to the end of the Gaullist era in 1970. Following the format of the series in which the volume first appeared in its original French version, she offers, lucidly and efficiently, a narrative outline of major movements and literary works, together with brief studies of some characteristic authors, and chapters dealing with the historical, social and intellectual context.

Brée's perspective on literary history is an orthodox one. Her main preoccupation, for the benefit of readers seeking to be informed, is to provide them with a convenient network of critical categories, ranging from chronological divisions to considerations of genre, theme, and aesthetic concepts, within which each "great writer" may be located with ease. But while this approach gives the necessary scope for a survey that proves wide-ranging and informative, it also dictates a certain number of assumptions which severely limit the usefulness of her project.

"Literature" is defined generously by Brée as "anything that is at any given moment accepted as literature", yet which is accepted as such principally by "critics". The outcome is a history which is academic in inspiration and purpose. Literature comes to exist as an outgrowth of the institutions of literary criticism, an affair of traditions and influences, and not of historical perceptions or events. Despite the repeated assertion that much literature of the period lives in conflict and discord, her history confers on writing a non-historical continuity which is that of a linear succession of relatively static phases. The movement of writing gives way to the monument of literature.

Furthermore, by electing "merely to describe" literary changes, Brée is able to present writing only at arm's length, failing to analyse the inner dynamic of literary positions, or to consider how texts are deeply enmeshed in history as complex and contradictory acts, or how the canon of great writers is itself a historical product. The dynamic of history is lost, and Brée's book begins to stand midway between a dictionary of national biography, the critical monograph, the introductory lecture, the reader's report, and the rehearsal of established opinion.

As a result, the surrealist movement, for instance, appears as a loose sequence of individual initiatives distanced from the cultural ferment of the interwar years. We are told, too, that surrealist theories were "somewhat naive", but not why or how they may be seen as such. Behind the broad sweep of Brée's interests lies a judgmental stance which is never fully made explicit. As a consequence, all real tension is erased in the name of the continuing progress of literature itself. Writing becomes a repertoire of styles which are motored from without by shifts in the social climate of the age.

In turn, that social world itself, which provides the basis for Brée's three major chronological divisions – which run from 1920 to the Popular Front, from 1936 to 1952, and from 1952 to the aftermath of May 1968 – is portrayed as following a similar pattern of deep historical continuity enlivened by surface change. Many of the more traumatic aspects of French national life are glossed over, and little is said to indicate the ambivalent attitudes or position of writers under the Occupation or their response to the Algerian War or to de Gaulle's *coup d'état*. The involvement of literature in history is that of two parallel lines which never make contact. The relation between background historical events and foreground literary works is such as to reduce the former to a movable stage set while the latter performs according to its own bland autonomy.

Leslie Hill

Leslie Hill is lecturer in French studies at the University of Warwick.

Festive analysis

Bathes: selected writings
edited and with an introduction by Susan Sontag
Fontana, £4.95
ISBN 0 00 636645 7

"Witty and elegant, but in the final analysis lacking in solid content". How Barthes would have delighted in unmasking the stereotyped British review of his "typically French" writing: the puritanical confusion of the pleasurable with the non-sensual (meaning must be sad and monolithic), the latent violence of which language makes us guilty when we present a myth or doxa (in this case the separability of form and content) as a self-evident natural truth.

The effect of language is ubiquitous for Barthes. We live in a "text" which extends far beyond the boundaries of literature, and if he invites us to climb with him an Effiel Tower of wit and elegance from which to "read" the cultural "signs" of the society before us – Bathes was the first popularizer of semiology in France – then we have only to sample this timely anthology to appreciate that it is a bird's eye view with a passionate point and purpose of its own.

Saussure's famous formulation of the relationship between signifier and signified is but one of many tools in a festive analysis ranging from the "World of Wrestling" and the "Face of Garbo" to the "Photographic Message" and a "Lover's Discourse" (this latter, one of the relatively longer of these previously published translations which Susan Sontag hopes we will read or return to in full). For the message of language itself is one of sumptuous polyvalence, and if the writer for Barthes stands at the crossroads of all disciplines, it is because he or she can bring language to a form of crisis, ecstatically liberating the play of difference on which, as we read in a provocative, anti-biographical essay on the utopian thinker, Fourier, true harmony and "*jouissance*" depend.

An enterprise subversive of all stable, patriarchal orders of meaning has obvious political, if not psychoanalytic relevance. Marx and Freud are never far away. Yet because the discourse of politics and psychoanalysis is itself grounded in stereotypes, the task of cultural displacement remains for Barthes a primarily critical and creative one, committed only uneasily in the direct political sense. As Sontag delights in reminding us, Barthes was supremely suspicious of the "sclerosis of systems". The same is, of course, true of structuralism, which he came to see as a fantasy of total knowledge useful only if it is not allowed to impede the ceaseless movement of the mind itself. By singling out a spiritual aesthetic of depersonalization as the heart of Barthes's varied development, Sontag may seem to downplay the radically deconstructive direction of his thought, the would-be epistemological challenge of his extreme contradictions and paradoxes, certainly to gloss over the at times infuriating over-simplifications which appear as polemical strategies in his attack on traditional literary criticism.

Yet she is obviously right to emphasize that it is the highly self-conscious activity of writing itself – even the heritage of the Gidean writer's journal – which gives impetus and consistency to so protean a work. Polished, aphoristic, humorous, veritably thriving on the reflexive sensibility of an era obsessed with the "death of literature", the very form of such writing refuses to divide the critical and the creative. Indeed teaching itself is praised by Barthes – he was himself an academic – for offering a non-coercive space in which to be "relaxed, disarmed, floating" rather than pompously certain of where one stands. "For the point", in Sontag's words, "is not to teach us something in particular" (we are reminded of the tempting Barthesian distinction between pure "*écrivain*" and transitively engaged "*écrivant*"), but to make us "bold, agile, subtle, intelligent, detached. And to give pleasure." "Writers, Intellectuals and Teachers" purchase, enjoy and take note.

Christine M. Crow

Dr Crow is reader in French at the University of St Andrews.

Sacred works

French Sacred Drama from Bèze to Corneille
by J. S. Street
Cambridge University Press, £32.50
ISBN 0 521 24537 0

What is the right critical approach to works in which one can take little or no pleasure? One can record them dispassionately for the sake of history, as Dr Street does admirably for these plays. He contends, with others, that since most of them lack the qualities we like but contain common elements which we dislike, those must be what the public of the period liked. (At least it knew no better). The modern reader can always hope to discover forgotten virtues or values which can help him to a new enjoyment.

The serious drama of the French Middle Ages, the *mystères*, were not "dramatic": long strings of episodes with no attempt at plausibility and no transitions assumed in the audience enough knowledge and faith to profit from them, and were meant to arouse not emotion but reflection. In its turn, the "tragedy" of Renaissance scholars, based on a new knowledge of antiquity (but principally of Seneca), did not really find a new basis, only a new form; its aim was to impress and teach, through *sententiae* and commonplaces rhetorically elaborated in set pieces which often lacked coherence, let alone movement.

The change, which has shaped all western drama since (until Brecht), does not come till the revolution pioneered by Corneille in the years around 1640. A cult of the *vraisemblable*, which some of his contemporaries carried to absurd excess, failed to create what we can recognize as realism; but it did have the effect (largely unforeseen) of concentrating its effects on a short plot and a few characters, through whose vicissitudes the audience learnt to find a new pleasure, that of participating in the emotions which it now became the principal aim of authors and actors to portray.

The century chosen by Street stretches from the last of the *mystères* to the first decade of what his historical perspective forces him to call by the old name of "classicism", together with the humanists and much irregular drama, didactic, polemic or naïvely narrative – but only such as used sacred themes. He nowhere explains this limitation, a very narrowing one, for neither humanists nor "classicists" used them much; they deal in acceptable sentiments, not in profound or personal meditations. Corneille's *Polyeucte*, the story of a martyrdom, is the only tragedy studied which integrates the sacred and the dramatic with complete success. Street devotes some good pages to this, but otherwise, in an exhaustive, scrupulous and necessarily rather arduous review of 127 plays, he can only point to half a dozen of some merit, three in each century.

He may have chosen the theme because he saw in it the only guarantee of a serious attempt to deal, as he believes tragedy should, with the most serious concerns of life. He concludes with the interesting and stimulating contention that if the tragic catharsis is that which creates some confidence that the seemingly arbitrary disasters of life do contain some hidden sense, then all the earlier dramatic styles "used with creative imagination . . . were no less capable than the classical system of producing coherent and compelling accounts of the world and man's place in it; but such creative imagination was no more commonplace at that time than at any other."

R. C. Knight

R. C. Knight is emeritus professor of French and honorary research fellow at University College of Swansea.

BOOKS

Against prejudice

Juvenile Delinquency: trends and perspectives
by Michael Rutter and Henri Giller
Penguin, £5.95
ISBN 0 14 080462 4

This review of the research literature on delinquency, orginally commissioned by the Home Office and the Department of Health and Social Security, is a monumental work. Even to have read the thousand and more references listed is impressive, but to have analysed and summarized their content and presented the result in a compressed but readable summary is a remarkable feat.

But many fundamental questions remain unanswered. Research into delinquency encounters numerous obstacles. The definitions of delinquent acts remain ambiguous, official statistical records are subject to all sorts of bias, and investigations at grassroots level, because of the sporadic and covert nature of delinquent behaviour, is extremely difficult. The potential suppliers of information – schools, police, parents and the juveniles themselves – all have their own reasons for resisting intrusion. Even so, some topics remain surprisingly under-researched.

For example, youth unemployment, bringing idleness and demoralization, might be expected to produce a substantial increase in crime, but the evidence is "contradictory and inconclusive" (page 106). The authors have to go back to material published over forty years ago to find data suggesting that young men are more prone to commit offences during periods of unemployment than when they are working. The gross correlations over time between crime rates and unemployment rates are inconsistent, obscured by a host of other influences operating simultaneously. The issue could be settled by measuring changes in the incidence of delinquency over time in two comparable groups, one experiencing involuntary unemployment the other remaining at work. As the authors point out: "So far as we are aware, such data have never been obtained . . . " (page 231).

Every generation feels its young are getting out of hand, but the evaluation of trends is complicated by changes in the law, changes in the readiness of the public to report incidents to the police and changes in the readiness of police to prosecute youngsters. Surveys in which representative samples of citizens are asked how often they have been victims of various crimes have not been done often enough in the UK to reveal trends, and other indices, such as increases in the cost of repairing vandalized property, are at best indirect. So in this, as in other matters, research has as yet reached no absolutely firm conclusion but "probably there has been only a small increase in crime during the 1970s", and not as great as suggested by official statistics (page 94).

The chapter reviewing theories ends with a sensible reflection on the absurdity of seeking a single, all-encompassing explanation for delinquency any more than for unhappiness. On the other hand, the exploration of diverse ideas is a useful preliminary to social planning and policy, which would otherwise proceed, even more than it does now, on a basis of ignorance or prejudice. Research shows the relevance of child rearing practices, of situational opportunities for crime, of the influence of school ethos and discipline, of poverty and social deprivation, of genetic endowment, of the demographic characteristics of the neighbourhood, of criminogenic traditions and of the ways officialdom processes and labels troublesome youngsters. Realistic interventions to combat delinquency must take into account the varied and complex nature of the problems involved.

The chapter on interventions inevitably makes depressing reading. Although drawing back from the fashionable view that nothing does or can work to prevent delinquency or reduce recidivism, the review shows clearly the formidable obstacles yet to be overcome. Too many negative evaluations have been based on poor quality or imperfectly applied treatment methods, far too few have included properly controlled comparisons with untreated cases, and far too many schemes have failed to deal with family and community relations after discharge from custody. All the same, some useful hints emerge. Behavioural retraining methods seem better than psychotherapy, except for over-anxious, neurotic individuals, and treatment in the community has a slight edge over treatment in institutions.

The authors' recommendations are no less important for being unsurprising and moderate. Delinquent behaviour of a not too serious character being so pervasive among the young, and usually a passing phase, minimal intervention is appropriate to first and minor offenders. Disapproval of antisocial acts should be consistently firm and clear, but before resorting to criminal justice procedures, which can make matters worse, informal controls, through support for parents and teachers, should be tried first. Individual treatment may be valuable for the persistently antisocial and maladjusted, but the main emphasis should be on improving family, peer group, scholastic and vocational relationships.

Custodial institutions are regrettably essential, but the duration of secure detention should be no more than necessary to achieve swift control and eventual transfer to more constructive programmes. The available evidence is against the populist idea that raising the level of punitive sanctions would do much to lessen the incidence of offences, unless it were possible, which it is not, to increase greatly the chances of getting caught. Moreover, if lesser crimes are punished sharply, it becomes difficult to produce appropriate reactions to more serious events.

Such views are sure to be criticized in some quarters as being the product of "wet" academic thinking. In fact they are the product of an unusually painstaking, scholarly and well-balanced appraisal of evidence. The book will be an indispensable reference source for a long time to come.

D. J. West

Professor West is director of the University of Cambridge Institute of Criminology.

DECLINE OF THE PRIVILEGED CLASSES

Margaret Rutherford in a scene from *I'm All Right Jack* made by the Boulting brothers in 1959. The picture is taken from *Best of British: Cinema and Society* by Jeffrey Richards and Anthony Aldgate published next week by Blackwell at £12.50.

Law and disorder

Social Control and the State: historical and comparative essays
edited by Stanley Cohen and Andrew Scull
Martin Robertson, £17.50
ISBN 0 85520 615 2

Following the radical challenges thrown down in the late 1960s and early 1970s by sociologists of deviance and "new" criminologists to the traditional ways of studying crime and punishment, the last decade has been one of considerable confusion and disarray in the ranks of academic criminologists.

Amid all the uncertainties and dispersed activities there has been at least one area which has produced an increasingly impressive body of original work. Social historians, following the lead of scholars such as E. P. Thompson, Eric Hobsbawm and George Rudé, have turned their attention towards the role of criminal law, the processes of law enforcement and the incarceration of deviants. At the same time many sociologists have rediscovered history. This important and timely book reflects these recent developments and is a product of the converging interests of history and sociology, centred around the notion of social control.

The essays deal mainly with crime, imprisonment and asylums for the mentally ill, with those in the first part of the book presenting critical reviews of the state-of-the-art in specific fields of social historical research and analysing the value of the overarching concept of social control. There are commissioned articles by John Mayer, David Philips and David Ingleby, and reprints of some excellent, but often rather inaccessible, essays by David Rothman, Andrew Scull and Michael Ignatieff. A common view emerges that social control is such a broad and diffuse concept that, as Gareth Stedman Jones says, its casual usage "leads to non-explanation and incoherence".

The revisionist studies of the growth of the penitentiary and the asylum in the late eighteenth and early nineteenth centuries by Michael Foucault, Rothman and Ignatieff, were major landmarks but it is now necessary to move forward in a rather more precise and self-critical fashion. Very few of the present generation of students of penal policy are likely to entertain traditional views of the essential progressiveness of penal change, in the wake of the post-Mountbatten dispersal prison system, the revival of stricter regime detention centres for the young offender, and proposed new police powers that are indeed fit for 1984.

Nevertheless, history has many valuable lessons to teach concerning the complex relationship between the *intentions* of penal politicians and reformers, their *rhetoric* and the *results* of their actions. A common element in the history of the modern state's response to social deviants is the uncritical linking of specific policies and practices for the handling of individuals, whether criminals, lunatics or paupers, and the more general perceived threat of urban disorder. This is just as relevant for understanding our response to disturbances on the streets of our inner cities in the 1980s as at any time in the past. So often the official response serves only to symbolize the drama of individual guilt, rather than examining the deeper implications of deviance and disorder for the community and its collective responsibility.

The case histories in part two of the book came as rather an anticlimax to the stimulating debate of the first part. Many contributions lack the critical cutting edge demanded by the earlier discussion. Some of the new material serves to consolidate what is already known, such as Nicole Hahn Rafter's study of the social control functions of a woman's reformatory in New York, or to shed light on a previously hidden area, as in Julie Vail Brown's study of the role of psychiatrists in Tsarist Russia. The one contribution that successfully combines empirical and theoretical insights is that by Paul Haagen on the operation of the debt law in England in the eighteenth century, where debtors constituted half of the prison population. Haagen shows how, despite its apparent irrationality, the law of debtor and creditor was well suited to the needs of England's ruling classes. It represented "a dramatic statement of the limit of law and of the state" and confirmed that mercy and discretion were the prerogatives of private individuals, thus reinforcing patterns of deference and dependence, and greatly buttressing the authority of the ruling class.

To begin to understand the complex processes of motivations and constraints surrounding the exercise of state power in response to the perceived threat (or needs) of social deviants in any historical period, it is necessary to be rigorous in the investigation of what happened, to be sceptical of official rhetoric and not to expect, at the end of the day, to find any neat dichotomies between progress and repression or humanitarianism and social control.

A. Keith Bottomley

Dr Bottomley is reader in criminology at the University of Hull.

Marxist usage

A Dictionary of Marxist Thought
edited by Tom Bottomore, Laurence Harris, V. G. Kiernan, and Ralph Miliband
Blackwell, £27.50
ISBN 0 631 12852 2
Readings in Marxist Sociology
edited by Tom Bottomore and Patrick Goode
Clarendon Press: Oxford University Press, £14.00 and £6.95
ISBN 0 19 876108 2 and 876109 0

Despite the considerable influence of Marxism in social science it has become increasingly less clear in the last two decades what Marxism is. There is no longer a clearly definable body of Marxist principles and there are often few differences between Marxist writers and their critics. *A Dictionary of Marxist Thought* offers some welcome, though not magisterial, clarification.

The book is aimed at students and teachers in higher education and at that book buyer of last resort, the general reader. The entries cover a very wide range, there is a long bibliography and, unusually in a dictionary, a useful index. Many of the entries are clear, accurate and concise. This is particularly true of those in economics and sociology. Clearly important terms like accumulation, competition or class are discussed in a way in which most of the readership would find useful and understandable. Also very welcome are those entries in which the Marxist contribution to various subjects like race, geography or natural science is summarized, since such accounts are difficult to find elsewhere.

The book's drawbacks seem to stem mostly from its method of composition, which depends on a team of eighty contributors. The result is that the standard of the entries is very uneven. The philosophical contributions in particular do not fit in with the others. They are far too long and dense (the entry on knowledge, for example, is three times the length of that on class) and occasionally rather wild (as when dialectics is described as possibly the most contentious topic in Marxist thought). In addition, some issues become philosophized. The entry on Althusser, for example, concentrates largely on his theories of knowledge and of the social totality and does not mention the concepts of interpellation and ideological state apparatus (which are also not mentioned separately elsewhere in the dictionary).

A heavier editorial hand might also have been helpful in cross-referencing. Even teachers in higher education might not know where to go for a discussion of a particular term which does not appear directly in the book. One has to have some prior knowledge of a subject in order to know more. Furthermore, the interconnexions between entries written by different authors are not always adequately made which makes it difficult for the reader to move logically from one entry to another.

As far as it is possible to make overall judgments about the content of the book, it has a slightly old-fashioned tone. Some individual Marxists, Poulantzas and Godelier, for example, who have been very influential recently, are not mentioned in the text, though they are in the index. One or two topics of contemporary significance, interpellation and discourse for example, are also not included. Perhaps more seriously, some entries dwell on classical sources more than they should. The discussion of ideology, for example, mentions only Althusser (not cross-referenced) among postwar writers. There is a case, especially in a dictionary which is really rather more of an encyclopeadia, for avoiding themes which could be no more than passing fashions. However, if this is a matter of deliberate policy, then it should be set out as such.

It is very easy to criticize a dictionary which, for academic reviewers, can inspire mere nit-picking. Many of the defects that I have identified could easily be put right in subsequent editions. Taken as a whole, this dictionary helps to show the vital contribution that Marxism has made to scholarship in a wide range of fields. No mean feat.

Readings in Marxist Sociology is also edited by Professor Bottomore who has himself made important contributions to the debate between Marxism and sociology. Largely made up of readings from Marx himself, it will be useful as a source book for students. As a book for the general sociological reader, however, it is less useful than Bottomore's own *Marxist Sociology*.

Nicholas Abercrombie

Nicholas Abercrombie is senior lecturer in sociology at the University of Lancaster.

THE
BILINGUAL FAMILY
NEWSLETTER
Editor GEORGE SAUNDERS

This new quarterly publication is being started in response to requests from many of the readers of George Saunders' best selling book "Bilingual Children: Guidance for the Family" (see below).
SUBSCRIPTION FOR LIBRARIES £4.50
Discounts for Multiple Subscriptions
FAMILY SUBSCRIBERS £3.00

BILINGUAL CHILDREN: GUIDANCE FOR THE FAMILY
George Saunders
278 Pages November 1982
Pbk 0-905028-11-2 £5.40
Hbk 0-905028-12-0 £13.50

For a sample copy of the newsletter or more details of all our books write to
Multilingual Matters Ltd
Room T2, Bank House
Clevedon, Avon BS21 7HH
England
(857)

BOOKS

A perfect black hero

Booker T. Washington: the Wizard of Tuskegee 1901–1915
by Louis R. Harlan
Oxford University Press, £29.50
ISBN 0 19 503202 0

Booker T. Washington (1856–1915) was the perfect black hero for a materialist era in the United States.

Born a plantation slave, he worked at various jobs after emancipation while acquiring an education. His struggle to succeed took him from the Hampton Institute industrial school in Virginia to the headship of a similar, and ultimately famous, institution at Tuskegee, Alabama. He received a sympathetic support from whites by publicly urging blacks to put vocational training and jobs before political rights or social equality, though he himself acted as a behind-the-scenes' adviser on black political patronage matters, as well as providing a striking example to his race of the value of self-help.

The first part of Louis R. Harlan's biography traced Washington's emergence as a national black leader. The second volume covers the period from 1901, when Washington was approaching the height of his influence and personal success, to his death in 1915, when the "empire" he had built from Tuskegee was already in disarray. It has been worth waiting some eleven years for this impressive sequel.

The black activist and scholar, W. E. B. DuBois, pointed out in 1903 that most of the black spokesmen of the nineteenth century had reached their positions through the support of their fellows, had striven to lead their own people alone, and were generally little known outside their race. But Booker T. Washington was projected as the leader not of one race but of two, as a compromiser between the south, the north, and the Negro. Herein lay Washington's greatest strength and weakness. He had vast influence, and its concomitant responsibilities, rather than the more straightforward freedom and satisfactions of the charismatic minority spokesman. Yet, like many exceptional individuals who have received exceptional treatment, Washington was led to see his power as being comparable with his influence. Moreover, out of a desire to keep his hold over black organizations and newspapers, and individuals black and white, he was inclined to ignore unpalatable truths, to simplify tiresomely involved situations, and to offer ambiguous statements to his complex constituency.

Harlan firmly acknowledges the negative side of his subject, without losing that sympathy essential to a convincing biography. He gives a truly gripping account of Washington's relations with his white benefactors and black detractors, with the people of Tuskegee, his family and fellow educators, and with the wider world. The black leader's materialism and "peasant conservatism" are analysed in the changing economic context of south and north, and we are skilfully shown the paradox of Washington's emphasis on the economic advance of blacks, while he personally aimed to be their political power broker.

For the key years of any farsighted statesman's life, his biographer is likely to be presented with a mass of material, "pre-edited" to conceal as well as reveal. The Washington papers are clearly no exception. Voluminous as they are, they do not allow Harlan to bring Washington alive as a friend or husband. Despite his close interest in his family and relatives we learn only of the more formal side of his association with them. Since Washington found his main happiness in practising the work ethic he preached, and was constantly away from home, this is perhaps not surprising. And any degree of self-revelation seems to have been unpalatable to a man who instinctively resorted to subterfuge in order to sustain his sensitive dealings with whites, and to undermine his enemies, both black and white. Unfortunately, his secrecy makes it impossible here – and presumably ever – to give an adequate account of Washington's last illness and, more importantly, of the assault on him by Henry Ulrich of New York in 1911; an incident which showed the vulnerability in racist America of even exceptional blacks, and was one of a number of factors which inclined Washington to more open and growing radicalism in the last years of his life.

The impression left of Washington is of a man with many appealing qualities. His simplicity and conviction made him an effective writer and a still more effective speaker. His organizing flair, skill in human relations, vigour and optimism in the face of countless disappointments were invaluable to the black cause. He was self-confident and unflappable, and, notwithstanding adulation, remained an engaging, practical provincial, worrying on a European tour that Normandy butter excelled the Tuskegee brand, and rejoicing that he had caught so many fish on a holiday trip "that even the truth would be taken for the usual fish story."

But such virtues easily ran to excess, and this was Washington's tragedy. His optimism made him unwilling to acknowledge that his policies could not check increasing white discrimination against blacks in the progressive era. His confidence helped him to conclude that the opposition of his black critics was personal, not principled. His understanding affection for things southern and American limited Washington's impact outside the United States, and made him insensitive to the problems of immigrants, except the Jews, an exception made at the time by many blacks.

None the less, the element of black protest continued in Washington though he advocated accommodation to the status quo, and it is easy to understand why one who loved him said, on his idol's death, "I have become what steel becomes when it is demagnetized."

Christine Bolt

Christine Bolt is reader in American history at the University of Kent.

Whale fishing, an engraving from around 1703, taken from the National Maritime Museum's publication *The English Chartered Trading Companies and the Sea* by G. V. Scammell (£2.50).

Marriage patterns

The Development of the Family and Marriage in Europe
by Jack Goody
Cambridge University Press, £22.50 and £7.95
ISBN 0 521 24739 X and 28925 4

In 1979 Jack Goody's seminal work, *Production and Reproduction: a comparitive study of the domestic domain*, focused the attention of the learned world on the distribution of monogamy and polygyny, dowry and "bridewealth" and other crucial socioeconomic issues as the author addressed himself to common problems in black (or sub-Saharan) Africa and the major societies of Asia and Europe.

A kind of flare illuminating the land that remained to be possessed, it was a study that led Dr Goody on to examine the differences in European kinship and marriage patterns from the time of the later Roman empire. Another remarkable example of interdisciplinary research and international cooperation, Jack Goody's new book is concerned with the domestic concerns of social life western society has inherited today, and particularly why such society has developed in a different way from those of the ancient world of the eastern Mediterranean and North Africa.

It is a truism that the Mediterranean world evidenced as much diversity as unity. And medieval Spain, with its strong Islamic links, certainly points a valuable contrast between the extended "inter-group" family characteristic of nomadic pastoralism and the interpersonal emphasis of a Christianity pregnant with individualism. Despite inevitable differences of emphasis, close analysis yields little evidence of convincing diversity between the North and South Mediterranean in matters like marriage transaction, inheritance transfer, kinship bilaterality or even the position of women and the notion of honour.

For Jack Goody however, the really significant area of advance relates to European marriage patterns. In marked contrast to Arab and oriental "in-marrying", European marriage thus early developed an exogamous character. It was not that Arab societies had any definite rule of endogamy, merely that logic dictated continuing control over family property. Europe, on the other hand, early abandoned such matrimonial strategy, arguably after the coming of Christianity, a phenomenon this fascinating inquiry then proceeds inexorably to pursue like the elusive will o'the wisp it has proved through many a crisis since the conversion of the Emperor Constantine gave it establishment status.

Under Pope Gregory the Great, the church changed ancient Roman customs – many of them also widespread in the Middle East – by roundly condemning marriage to close kin and the widows of kinsfolk. This was done on the authority of singularly ambiguous scriptural passages (in context, for example, the Old Testament actually records many of the practices accorded papal disapproval); and with Bede and Augustine, Gregory I held a line that, despite Luther and Bucer in their bid for Reformation in the sixteenth century, has endured to this day in the attitude of the hierarchy to "divorce" and re-marriage. It proved an attitude that profoundly affected the European social system, especially with reference to what the author terms "strategies of heirship". Moreover, the rivalry between "local custom" and ecclesiastical practice did much to shape the law. Apparently perplexed by papal severity, Dr Goody sets out the thesis that, in a world where most sinned and fell short of the sexual standard required of them, princes and peasants alike were bound to pay for their indiscretions. Rome was thus able to control the grassroots of society, quite literally amassing land and property in the process.

An intriguing line of argument receiving massive documentation in pages crowded with charts and learned apparatus, it is also one that, by setting significant cats loose in the midst of the curial dovecot, will have to be answered, perhaps by the Jesuits? Martin Luther raised his voice in protest almost five hundred years ago. Broaching the vexed issue of church-state relations, his anti-clerical arguments have not been forgiven by the papacy because of the dissolutions that in many and varied ways checked its otherwise highly successful take-over bid for both sacred and secular in Europe. For papal ideology and the social practice of ordinary people the great reformer served in a ministry of genuine pastoral concern frequently diverged.

Conscious to the end that the sheer timespan involved could be used to condemn his findings as superficial generalization, there is a pleasing modesty about this remarkable and most competent book. The depth of Dr Goody's treatment does not once confuse the clarity of exposition – an altogether compelling account of the Roman Church in its bid for survival by means of property accumulation controlled by a careful strategy of family inheritance procedures. If he set himself the task of stirring up the dialectic by writing this book, Jack Goody has certainly achieved his goal; and in terms of the evolution of western society his well-chosen words must be weighed as the vehicle of original thought and essential reading for both scientists and those addicted to the humanities.

Peter Newman Brooks

Peter Newman Brooks is a fellow of Robinson College, Cambridge.

Work to school

Education in Provincial France 1800–1914: a study of three departments
by Robert Gildea
Clarendon Press: Oxford University Press, £28.00
ISBN 0 19 821941 5

Robert Gildea early outlines the problems with which he seeks to deal in this important book. In the first place there is that of popular mythology. The story of the French Minister of Public Instuction who, during the Second Empire, pulled out his watch and claimed that he knew what, at that precise moment, the children of France were studying in their schools, is a story that won't lie down and which gets in the way of any real understanding of how the educational system developed and functioned in nineteenth-century France.

The other is a problem of method. It has become customary for historians of education to write in national terms, taking the whole of France as their field, or for them to concentrate exclusively on what happened in one single department. The former leads to a history that is too general to be valuable, the latter to a history that is too narrow to be trustworthy. Dr Gildea has decided to study three contrasting departments, and he has chosen the Nord, the Gard and Ille-et-Vilaine. He delves therefore into the very different worlds of the north, the south and the west and he has been able to use a wealth of primary materials and to exploit a number of archival collections. It is this which makes his work one of the most informative and revealing on this subject.

A pleasing and recurring theme is that of how local conditions affected, for example, school attendance. There were communes where it was sheer poverty which prevented people from sending their children to school. There were other communes where in spite of poverty there was a commitment to public instruction, and sometimes this was associated with an ideology, such as protestantism or anti-clericalism. But in the last resort, as the author says, it was the pattern of the rural and the urban economies which most affected attendance.

In the south the children were directed to feed the silkworms in the spring, and then had a succession of tasks after that, so that it could be Christmas, after the olive harvest, before schools could expect to be at full strength. In Brittany, where communications were particularly difficult, there seems to have been an age distinction. The infant children returned to school in the spring, when it was easier to negotiate the sunken roads, just at the time when the older children were going to work in the fields. In Flanders, young girls could be set to lace-making at the age of seven, and boys of the same age would be employed in the domestic weaving industry. In towns those who were to be apprenticed to a trade might stay at school until they were 12 or 13, and some schools were criticized for concentrating on this artisan elite and for neglecting the education of the very poor who were to be found begging in the streets.

The process of education often began with the ceremony of the first communion, but there were variations in this too. It was usually taken at the age of 11 but in Brittany it could be earlier. A Breton schoolteacher reported that children would come to class only a few months before their communion, in order that they could learn their catechism, but in the north, in Roubaix, it was claimed that children were only released from the cotton mills some three weeks before communion.

From such evidence as this Dr Gildea is able to show that the history of French education is not to be seen in terms of government legislation nor of administrative innovation taken at the behest of Paris. It is essentially a story of compromise in which local initiatives were as important as those of the centralized machine. Gildea speaks of a "geography of attitudes" that had been forged by preceding historical conflict.

The great value of educational history is that it illustrates much of the social and ideological life of the nation in ways that are direct and revealing. For example, it is striking to see how well the Catholic church comes out of this. It was not dogmatic or inflexible: it was ready to adapt itself to every social need and to provide for all classes in society. From evidence shown here we can see the variety of social classes provided for by the church, with one Catholic college being filled with the sons of the aristocracy and the local elites, while another has a remarkable mix of sons of artisans, weavers and agricultural wage-earners. The church could take initiatives that were beyond the scope of the less agile machinery of the university and could create a wide variety of loyalties. Thus, when the fierce anti-clerical laws against religious establishment were enforced after 1902, local populations had many reasons to get round the letter of the law.

Dr Gildea has not just indulged in the simple pleasure of showing us that French history is more complex than we thought. He has provided many valuable insights into the whole nature of post-revolutionary France.

Douglas Johnson

Douglas Johnson is professor of French history at University College London.

BOOKS

MATHEMATICS AND PHYSICS

Lure of large numbers

Eddington: the most distinguished astrophysicist of his time
by S. Chandrasekhar
Cambridge University Press, £7.50
ISBN 0 521 25746 8

It is just over a century since Sir Arthur Stanley Eddington was born. To mark the occasion, Trinity College arranged two centenary lectures by an almost equally distinguished astrophysicist who had at one time been a personal friend.

Forty years after his death something of the wildness with which Eddington's ideas were opposed (which, it must be admitted, was only his opponents giving as good as he gave them in scientific controversy) still clings to his name. So it is pleasant to notice in this published version of the lectures a well-balanced assessment of the man as a whole. It is in two parts, corresponding to the two lectures, one on astrophysics proper, which Chandrasekhar sees as a happy story, and one on the less happy story of "the expositor and exponent of general relativity".

From early in his life, Eddington was fascinated by large numbers, learning his tables up to 24, and even beginning the task of counting all the words in the Bible. The large numbers in astronomy were very real integers to him and, facetiously it is true, he begins chapter nine of his *Philosophy of Physical Science* by quoting *in extenso* the exact value of the large number which he supposed to be the number of electrons in the Universe, a number of 80 digits. When Russell asked Eddington whether he had calculated this himself, he replied that he had done it on an Atlantic crossing.

But numbers are only one half of the character of Eddington's writing, and not the most significant. The other is his limpid prose style, a carefully nurtured ability. This style is very distinctive (the only comparable stylist of the century, and one whose style is astonishingly similar, of which I am aware, is the economist Sir John Hicks). It is clear from an aside in these lectures that Eddington was led to perfect his style by his early contact, as a student, with Sir Horace Lamb. He retained a deep admiration, saying in the early twenties: "While I know what it is to be treated something like a lion, I would rather like to become something of a lamb."

Eddington entered the professional world of astronomy just after Kapteyn had discovered that the proper motions of the stars could be explained only in terms of the two streams in relative motion. The two then cooperated in a statistical explanation of the observed proper motions. Although their explanation was later superseded by that of Schwarzschild, Eddington's work here and in the next five years or so founded the subject of stellar dynamics. It was natural for him to turn to the question of the internal constitution of the stars, in order to try to understand the Cepheid variables – a group of stars the period of variation in the light output of which could be related to their intrinsic luminosity.

In the next ten years Eddington established most of our present understanding of this subject: that radiation pressure became increasingly imporant as the mass increased; that where radiative equilibrium is the important feature, the temperature is determined by the source of energy and the opacity; that the opacity is determined by the ionization of the inner shells of highly ionized atoms; and that accordingly there is an upper limit to the luminosity that can support a given mass, although in normal stars this is not very dependent on the energy sources – here, in fact, was a relation which could be compared with observation without a detailed knowledge of the energy sources.

And as if that synthesis of the present knowledge was not enough, Eddington added in his book the conjecture whose verification was to inform all the later development of the subject, but whose development needed the later discovery of the mature quantum theory, that the most likely source of stellar energy was the burning of hydrogen into helium.

In the second lecture, with Eddington immersed in general relativity, we find him planning the eclipse expedition, not because he felt that the general theory needed such confirmation, for "he was fully convinced of [its] truth", but because the English scientific establishment, stimulated further by the death of Moseley at Gallipoli, was anxious to have him deferred from military service. As a Quaker, however, he would in any case have refused; and he almost scuttled the whole plan by adding a postscript to a Home Office letter explaining this. It took all the establishment's skill to get out of that one. Chandrasekhar rightly sees Eddington's book on the general theory as a "wondrous treatment", but already in his treatment of the generalization of Weyl's gauge theory he begins to show some of the eccentricity of his later ideas. His exposition is couched in the form of a pure mathematical investigation carried out with an assurance that the quantities thrown up by the mathematics will be found in the external world.

About the later work there is less to be found here – although it is interesting to see chapter and verse given for looking at *Fundamental Theory* as a sustained attempt to determine the value of the cosmical constant in cosmology. I think myself that this is only a small part of the truth. Although it is a view which has the advantage of relating Eddington's later calculations of dimensionless constants to his earlier astrophysics, it fails to take account of the impact on Eddington of Dirac's discovery of the equation of the electron, which was Lorentz invariant without being of tensor form. (For Eddington, in common with the whole community of physicists, was unaware of the existence of two-valued representations of groups.)

Something needs to be said too about his failure to produce sustained cogent argument in the later work. I think here the elegant style trapped him; he had used it to such advantage in a series of scintillating popular works (begun as part of the intense rivalry with Jeans) and towards the end the difference between that style and that of exact argument eluded him.

C. W. Kilmister

C. W. Kilmister is professor of mathematics at King's College, London.

NATIONAL PORTRAIT GALLERY

Chalk drawing of Sir Arthur Eddington by Sir William Rothenstein.

Optimal policies

Introduction to Stochastic Dynamic Programming
by Sheldon M. Ross
Academic Press, £16.20
ISBN 0 12 598420 0

Dynamic programming is concerned with the optimization of decision situations consisting of a sequence of interdependent decisions. The implicit nature of the technique goes back to Masse who in 1944 used the ideas to determine an optimal plan for investments in the French electricity utilities. Since the publication of Bellman's book on dynamic programming in 1957, however, the technique has been developed considerably to deal with a wide range of problems.

Bellman's book was followed by Howard's introductory text on Markov decision processes (perhaps a more suitable title for Professor Ross's new book), but this was restricted to specific types of problem. Since those early days, there have been about a dozen texts dealing specifically with stochastic (or probabilistic) dynamic programming in one way or another.

Stochastic dynamic programming is then a technique for determining optimal policies for systems operating over some time horizon, or set of decision stages, where the behaviour of the system is probabilistic, influenced by the decisions taken at each stage, and where the policy specifies which of a given set of actions to take in the knowledge of the condition of the system at the time of each decision. For example, on page 56, a hypothetical burglar is faced with a decision, after each successful burglary, as to whether or not he should attempt a further burglary. He has a certain probability of success at each stage, and his haul is also probabilistic. If he is caught, he goes to jail. Professor Ross provides him with a policy which will maximize his expected haul – all going to show that decision theorists take no side in good or evil.

The first of seven chapters deals with problem situations which terminate after a finite specified number of decision stages. The second deals with problems involving an infinite number of decision stages, with pay-offs at each stage discounted back to the time origin to reflect the reducing importance of pay-offs as they occur later in time. The third and fourth chapters deal with non-discounted infinite decision stage problems, where system performance is measured in terms of the additive performance at each stage.

Chapter five deals with infinite decision stage problems where the measure of performance is an average of each individual stage performance over all stages. Chapters six and seven deal with applications to scheduling and bandit-type problems, the term "bandit" deriving from the use of the term in amusement gambling arcade fruit machines. In the academic context, it also covers the class of problems relating to the experimental use of drugs in a controlled manner, where a choice of drugs exists and it is not known, initially, which one is best.

The text is written at a middle mathematical level, suitable for third-year mathematicians, and postgraduate, mathematically able, operational research and management science students. Its probability prerequisites are moderate. It is not a comprehensive text by any means; indeed, the foundation theoretical results are fairly limited, dealing with such things as the existence of optimal policies, the optimality equation (so fundamental to dynamic programming) and some computational considerations.

The main value of this book, however, lies in the considerable number and variety of applications of the main theory which it covers, not only in terms of formulations, but also in terms of some fairly complete determinations of actual optimal policies (such as the answer to the burglar's dream), or properties of these, in closed form, as distinct from the majority of other works which concentrate to some extent on numerical algorithms.

A second edition of B. H. Bransden's *Atomic Collision Theory* has been published by Benjamin /Cummings (Addison-Wesley) at £22.45.

UP TO THE MINUTE TEXTS
IN PHYSICS AND MATHEMATICS

Equilibrium Thermodynamics
Third edition
JOHN ADKINS
The approach of this established textbook is essentially classical but the illustrative material is drawn widely from modern physics and free use is made of microscopic ideas. Among the topics included in this new edition are fluctuations, solubility gaps and phase diagrams of simple alloy systems, and the fountain effect in liquid helium.
Hard covers £22.50 net
Paperback £7.95 net

A First Course in Fluid Dynamics
A. R. PATERSON
This lucid survey of theory and practice starts from first principles. The first eleven chapters examine the basic ideas of fluid dynamics, explaining all the modelling and mathematics needed step by step. The last six illustrate applications to linearised sound and water waves, non-linear water waves on channels, high-speed airflow and aerofoil theory.
Hard covers £30.00 net
Paperback £12.50 net

Finite Elements
An Introduction for Engineers
R. K. LIVESLEY
This introduction to the finite element method as an important technique in engineering mathematics is written for undergraduate students who have already completed a general course in vector calculus, matrix analysis and partial differential equations.
Hard covers £17.50 net
Paperback £6.95 net

Problems for Physics Students
K. F. RILEY
A collection of some four hundred stimulating physics problems accompanied by hints on their solutions and answers.
'An interesting and valuable book which is more lively and informative than are most collections of problems.'
Physics Education
Hard covers £12.50 net
Paperback £5.95 net

Complex Analysis
IAN STEWART and DAVID TALL
Frequently regarded as more complicated than real analysis, complex analysis is in many ways simpler. Geometric insights and direct generalisations from familiar aspects of real analysis are used throughout this book to provide a lucid introduction that will be of value to all students of mathematics.
Hard covers £22.50 net
Paperback £8.95 net

Introduction to Dynamics
I. C. PERCIVAL and D. RICHARDS
Recent advances in dynamics and changes in the mathematical and scientific backgrounds of students have meant that a fresh approach to the subject is needed. This textbook presents dynamics in a new way, introducing the subject through the elementary qualitative theory of differential equations, the geometry of phase curves and the theory of stability.
Hard covers £18.50 net
Paperback £7.95 net

The Quest for Quarks
BRIAN McCUSKER
Professor McCusker's brief, non-technical account of elementary particles is designed both for physics students and the general reader. He examines all the fundamental questions that continue to puzzle scientists: are quarks the fundamental building blocks of nature? what are they like: how many kinds exist? and can they exist in a free state:
£7.95 net

Weak Interactions of Leptons and Quarks
E. D. COMMINS and P. H. BUCKSBAUM
A timely account of weak interaction and its relationship with the other fundamental interactions of nature which examines both early models and the most recent developments. The authors' straightforward style and emphasis on experimental results will be welcomed by all students of the subject.
Hard covers £37.50 net
Paperback £16.50 net

CAMBRIDGE UNIVERSITY PRESS

BOOKS

MATHEMATICS AND PHYSICS

Abstract algebra

Rings, Fields and Groups: an introduction to abstract algebra
by R.B.J.T. Allenby
Edward Arnold, £9.95
ISBN 0 7131 3476 3
Applied Abstract Algebra
by K.H. Kim and F.W. Roush
Ellis Horwood: Wiley, £25.00 and £9.50
ISBN 0 85312 563 5 and 612 7

Abstract algebra, to quote Dr Allenby's excellent book, is "the study of algebraic systems defined solely by postulates or axioms (usually chosen not arbitrarily but with several concrete instances in mind), no particular meaning being attributed to the symbols being manipulated." The subject has applications throughout pure mathematics and in the "real world": quoting Dr Allenby again, "the theory of groups, being (in a rather wide sense) the mathematical formulation of symmetry, is naturally widely employed in physics and chemistry – for instance in applications to crystallography, spectroscopy, general relativity, molecular vibrations, molecular orbitals, solid state physics and especially in the modern theory of elementary particles." Other parts of abstract algebra are used, for example, in data communications, design of computers, statistics, economics, and social science.

Kim and Roush's book is intended to provide a two-semester introduction to abstract algebra together with some of its applications. The authors are mathematicians interested especially in applications of mathematics to social science. The book has chapters on sets, semigroups and groups, vector spaces, rings, group representations, and fields, and within those chapters are sections giving applications to, for instance, finite state machines, kinship systems, coding theory, and Latin squares.

Although the range of topics tackled seems admirable, I was unhappy with the book on several counts. For example, why is Philip Hall's theorem on sets of distinct representatives (here mis-stated) given a five-page sketched proof by network flows in the middle of the chapter on groups, when neither theorem nor proof has anything to do with groups, and when the theorem can easily be proved from scratch in half a page using nothing more than induction? And why is the word "group" used as a synonym for "set", even within the chapter on groups? In introducing linear algebra, the authors plunge straight into the infinite dimensional case without bothering to explain, or even mention, much of the necessary set theory.

The opening chapter is unreadable because the authors persist with ordered-pair notation for everything in sight, and definitions and proofs throughout are rendered meaningless by the wholesale omission of quantifiers; the book is riddled with misprints, many of them trivial but all of them annoying, and overall I had the impression that the authors simply could not be bothered to get anything right.

Dr Allenby's book, on the other hand, is beautifully written. It is a teaching text, rather than a reference work – he tells the reader to "begin by getting up out of that armchair and . . . find yourself a nice clear desk." After a prologue containing the passages quoted above and an historical sketch of the development of the subject, he starts with integers and polynomials, and works his way towards the theory of rings (here I should have preferred it if he had confined his attention to rings with 1); next, fields; and finally two chapters on groups.

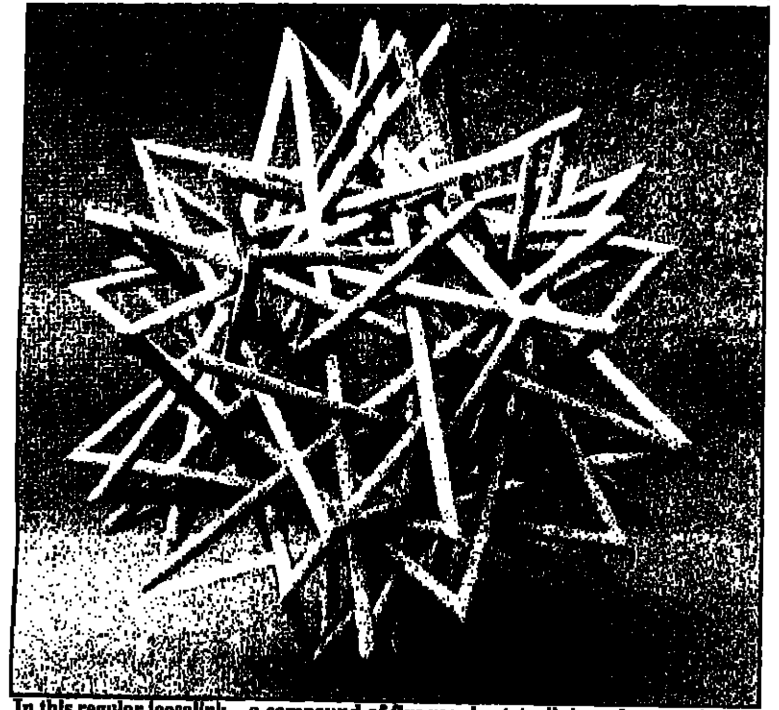
The material corresponds to the first two years of a university course, with the group theory going perhaps a little further (Sylow theorems, soluble groups, and the simplicity of the higher alternating groups). Thus, the reader starts with the familiar and concrete, and works gradually towards the more abstract; in contrast, the more usual way of teaching the subject starts with the most abstract concept, groups (or even, Heaven preserve us, semigroups), and adds more and more axioms until familiar algebraic objects like the integers or the rational numbers emerge triumphantly at the very end. It is hard to see what this latter method has to recommend it beyond mere economy of presentation.

In the early parts of his book, Dr Allenby adds to his proofs extra details of argument enclosed in brackets, so that the reader can try to manage without the bracketed comments as his confidence grows. Later proofs have interjections such as [Why?] at carefully calculated points in the argument, and the reader is constantly challenged with problems, conjectures and exercises. I detected few errors or misprints. The text is interspersed at appropriate points with pictures and brief biographies of eminent mathematicians who have contributed to algebra.

In a subject where it is only too easy to write an account which is dry and unappealing, Dr Allenby has succeeded in producing a lively text that should make compulsive reading for undergraduates.

J.R. Silvester

J.R. Silvester is lecturer in mathematics at King's College, London



In this regular icosalink – a compound of five regular tetralinks, where each ring links with eighteen others – the rings lie against each other in pairs and are turned about each other in their common plane. Taken from Alan Holden's *Orderly Tangles: cloverleafs, Gordian knots, and regular polylinks*, an exploration of topological phenomena such as rings, knots and chains, published by Columbia University Press at $26.00.

Classical geometry

Notes on Geometry
by Elmer G. Rees
Springer, DM28.00
ISBN 3 540 12053 X
Maxima and Minima Without Calculus
by Ivan Niven
Mathematical Association of America: Wiley, £20.00
ISBN 0 88385 306 X

Classical geometry (as distinct from algebraic geometry or topology) is a subject that does not find much favour in present-day university mathematics courses. These two books, in rather different ways, both lend support to the proposition that it deserves more respect than it currently receives.

Professor Rees's book is based on a course of lectures given a few years ago in Oxford, and (intentionally, as he explains in his preface) reads very much like an unreconstructed set of lecture notes. The material is divided into three sections, of roughly equal length, which deal respectively with Euclidean, projective and hyperbolic geometry.

Topics covered include, in the first section, the classification of isometries of the Euclidean plane and three-space and their finite or discrete subgroups; in the second section, a discussion of conics and polarity; and in the third, the Beltrami and Poincaré models of the hyperbolic plane and the basic formulae of hyperbolic trigonometry. The selection of material for the book is difficult to fault, although here and there I felt that a particular topic had been left only half developed (possibly because of lack of time in the original lecture course).

The book ends, however, with a comprehensive and well-annotated list of suggestions for further reading. The author expects his readers to know a fair amount of linear algebra, group theory and topology; this being so, it is surprising that he spends some 12 pages on the Platonic solids and their symmetry groups, since the latter are usually treated as examples in a first course on group theory.

My main grumble about the book concerns the author's style: he is one of that happy band of writers who believe that punctuation is entirely a matter of personal whim. Most of the time, the haphazard use of commas is merely irritating; occasionally, however, it might induce serious misunderstanding. Despite this, I would happily recommend the book to any second-year undergraduate who wishes to know more about geometry than his university course is likely to provide; with its numerous and well-drawn illustrations, it should certainly give him more of a feeling for the spirit of the subject than many more substantial tomes.

Professor Niven's book is aimed at a rather different audience; in this country, it would be appropriate reading for bright sixth-form students. His general philosophy is that "while calculus offers a powerful technique for solving extremal problems, there are other methods of great power that should not be overlooked", and he aims to show that these other methods are something more than a bag of unrelated tricks. His policy is to concentrate on problems that can be solved at least as easily by non-calculus means as by calculus. Although the table of contents might suggest a rather disparate collection of problems, in fact the book reads remarkably well as a connected account.

Most of the problems covered are geometrical, with isoperimetric problems playing a major part. Although calculus is not used, limiting techniques occasionally are; but in the main the results are derived from standard algebraic inequalities, which are summarized in the first two chapters of the book. As befits a volume in the Dolciani series, the expository style is above reproach; it is particularly impressive that the author manages, without frightening his readers, to be honest about the difference between a proof which assumes the existence of an extremal solution and one which does not. This is a book which deserves to be read very widely; it is a most useful corrective to the widespread belief that the only way to find a maximum is to equate a derivative to zero.

Both books are liberally provided with exercises (plus, in Niven's case, nearly 50 pages of solutions). Although I cannot claim to have worked through them all, they should provide a varied and challenging diet for the books' intended readers.

P.T. Johnstone

P. T. Johnstone is lecturer in mathematics at the University of Cambridge.

Elasticity theory

Mathematical Foundations of Elasticity
by J. E. Marsden and T. J. R. Hughes
Prentice-Hall, £38.65
ISBN 0 13 561076 1

As its title implies, this book should appeal most to those who like their applied mathematics to look as much as possible like pure mathematics. Its text of over 500 pages is almost exclusively concerned with the formulation of the non-linear theory of elasticity and the development of general results in elasticity. Those interested in the applications of elasticity theory must therefore look elsewhere.

The book is written at a very high mathematical level, the authors not hesitating to make use of any mathematical tools which they consider appropriate; and they also make extensive use of advanced modern differential geometry and functional analysis. They have, however, taken great care to define and explain mathematical terms and concepts with remarkable clarity and precision. Consequently, the book should be readable (though not without considerable effort) even by those of us who feel more comfortable in a less rarified atmosphere; persevering readers should be rewarded by the many revealing insights.

The preface is disarming. Although it would be unfair to reveal the "three things that every beginner in elasticity theory should know", these will probably strike a responsive chord in many who have tried to teach the subject. After this, the main text can be tackled in a sympathetic frame of mind. The first two chapters (about one-third of the book), though not strictly about elasticity, provide, respectively a deep and thorough analysis of finite deformation geometry, and a formulation of the principles of continuum dynamics and thermodynamics. Elastic constitutive theory is then described in chapters three and four; and Hamiltonian and variational principles in chapter five. A long chapter on applications of functional analysis then deals, among other things, with difficult questions of existence and uniqueness of solutions.

I found the final chapter, on "Selected topics in bifurcation theory", the most interesting and yet the least satisfying part of the book. Interesting, because it comes closer to real physical problems of elastic stability and buckling. And not completely satisfying, because the chapter "cannot pretend to cover anything but a sampling" and also because much of it deals with research too recent to have been thoroughly sifted and set in its proper perspective.

Overall, this is a superb and exhaustive account of the mathematical foundations of elasticity theory which is strongly recommended to those who possess, or are willing to acquire, the very extensive mathematical background needed to understand it. My criticism of this book and others which adopt a similar viewpoint, is that they tend to leave the impression that the important and necessary exercise of setting a physical theory on a sound mathematical foundation is an end in itself, rather than a means to an end. Elasticity theory is useful as well as interesting and, to be fully appreciated, it needs to be used as well as understood.

However, Marsden and Hughes have very successfully accomplished the task which they have set themselves.

A. J. M. Spencer

A. J. M. Spencer is professor of theoretical mechanics at the University of Nottingham.

A second edition of S. C. Hunter's *Mechanics of Continuous Media* has been published by Ellis Horwood (Wiley) at £32.50 and £12.50.

Oxford University Press have published second editions of three physics texts: Martin Prutton's *Surface Physics* (Clarendon Press) is available at £12.50; Rodney Loudon's *The Quantum Theory of Light* (also from Clarendon Press) is available at £30.00 and £15.00; and G. K. Woodgate's *Elementary Atomic Structure* is available at £5.95.

Wiley CHICHESTER · NEW YORK
BRISBANE · TORONTO · SINGAPORE

COMPUTATIONAL METHODS IN ELEMENTARY NUMERICAL ANALYSIS

by J.L. Morris, *Computer Science Department, University of Waterloo, Ontario, Canada*

This text provides a thorough grounding for students on a first course in elementary numerical analysis. The emphasis is on the practical application of numerical methods in science and engineering by means of computer implementation. For the benefit of the student the text contains many examples and exercises.

0471 104191 422pp January'83 (cloth) $34.95/£17.50
0471 104205 422pp January'83 (paper) $19.95/£9.95

ALGEBRA VOLUME 1, 2nd Ed.

by P.M. Cohn, *Department of Mathematics, Bedford College, University of London*

This is a new edition of an established textbook by an international authority in the field of algebra. It covers the first two years of the rigorous, abstract algebra course that is usually taught to students majoring in mathematics. A second volume covers more advanced topics leading the student through to postgraduate work.

0471 10169 9 426pp June'82 (paper) $29.95/£9.95

MODERN PHYSICS

by K.S. Krane, *Oregon State University*

This introduces the concepts and methods of modern, 20th-century physics. The book covers relativity, quantum physics, and applications, and emphasizes the empirical basis of modern physics. It provides experimental tests of theories, including tests of special relativity, and presents applications of all basic phenomena, such as barrier penetration and lasers. Includes numerous work exercises.

0471 07963 4 528pp February'83 (cloth) $38.50/£27.50
0471 89242 4 528pp March'83 (WIE) $17.00/£10.60

THE PHYSICS OF VIBRATIONS AND WAVES, 3rd Ed.

by H.J. Pain, *Department of Physics, Imperial College, London*

The main theme of this book is that the transmission of energy by wave propagation is fundamental to almost every branch of physics: thus, besides imparting a sound knowledge of the theory of waves and vibrations, the book has an important role in demonstrating to the student the pattern and unity of a large part of physics.

0471 90181 4 432pp August'83 (cloth) $35.50/£18.95
0471 90182 2 432pp August'83 (paper) $13.90/£7.50

For further information please write to the Textbook Manager – Inspection copies of certain books are available.

John Wiley & Sons Limited
Baffins Lane · Chichester · Sussex PO19 1UD · England

BOOKS

MATHEMATICS AND PHYSICS

Grand unity

Unity of Forces in the Universe
by A. Zee
World Scientific: Wiley
Volume one: £40.00 and £16.50
ISBN 9971 950 38 3 and 39 1
Volume two: £40.00 and £16.50
ISBN 9971 950 14 6 and 15 4

The production and identification, at the European Organization for Nuclear Research (CERN) in Geneva, of the massive W and Z elementary particles is a signal success for physics. Together with the photon these bosons are responsible, according to the "electroweak" theory of Steven Weinberg, Sheldon Glashow and Abdus Salam, for all the weak and electromagnetic processes in nature. Confirmation of the most critical prediction of this unified theory was a dramatic *tour de force* of experimental physics, yet it was taken almost for granted by many of the world's leading theoreticians.

Convinced, by the theory's simplicity and elegance, that it was essentially a correct description of the interaction between all leptons, neutral as well as charged, they had already begun to extend it. Their aim was to incorporate in a single unified theory also the strong interaction, that is to say a description of the nature of, and the forces between, the other constituents of matter, the quarks. This scheme of "grand unification", like the electroweak theory itself which now becomes a subset of it, views the elementary fermions and the bosons they exchange as a reflection, albeit distorted and broken, of the symmetry properties of certain underlying mathematical groups. The advocates of grand unification theories assert that there exists a group structure which correctly describes all three interactions, and that only a single number is needed to describe the vastly different strengths of these forces.

The seeds of these ideas were sown less than a decade ago. They have rapidly taken root and in these two volumes one of the most persuasive exponents of grand unification attempts to cut a track through the jungle of publications which has arisen. Zee has gathered over 70 of the most influential articles and arranged them by subject with a linking commentary. Thus he has made available in one place just those papers with which a student starting work in this area should become familiar.

The field is technical, and swiftly-changing, so how can one assess these volumes? It is beyond my competence to appraise each paper; even Zee admits that he hasn't read them all. So a summary of the topics will have to suffice. Volume one covers some of the gauge theories that have been proposed as bases for grand unification. It looks at the so-called "family problem" (a generalization of the old question, "Who needs the muon?") and the equally puzzling origin of the mass spectra of the various families of fermions. Several papers look at one of the few firm predictions of grand unification theories that seems remotely testable; that the proton should, eventually, decay. Although predicted lifetimes depend critically on the details of the theory, the papers in this section are well chosen in that they go to the heart of the problem of baryon (and lepton) non-conservation, and their significance will not be lost whatever limits on the proton's lifetime emerge from current experiments.

The list of authors is predictable: Georgi, Weinberg, Wilczek, Zee himself, appear half a dozen times. The volume concludes with Slansky's lengthy article on group theory, which first appeared in *Physics Reports*. Most of the papers in this volume require the reader to understand group theory at this level.

In volume two, Zee turns to the impact, a formidable one, of grand unification theories on cosmology. The required background is given in ten seminal papers, ranging from Gamow's speculations of 40 years ago to the work on nucleosynthesis of the Chicago school. It seems that non-conservation of baryons is a necessary requirement for a model Universe to be made of matter rather than antimatter; grand unification theories, as we have seen, provide this feature. Some remarks along these lines by Zee introduce groups of papers on cosmological nucleosynthesis, on galaxy formation and on the putative cosmological role of massive neutrinos (which also arise rather naturally in grand unification theories).

A less welcome prediction of grand unification theories is that massive monopoles should also exist, in unacceptably great abundance. To avoid this, and to solve the problems of why the Universe is both so homogeneous, and so flat (meaning, crudely, that its kinetic and potential energies are equal and opposite), Guth recently proposed the "inflationary Universe" scheme. His paper is a model of succinct scientific writing. Others in this section, however, may soon be outdated, and the same is perhaps true of the subsequent chapters which deal with attempts to go beyond a minimal theory by introducing, for example, various types of composite fermions. In a different vein, there is also a selection of articles on supersymmetries and supergravity.

Zee's linking commentary is crisp, thought-provoking and often witty. Busy supervisors could advantageously direct their research students to digest these volumes; they themselves might also find them very palatable.

John Edgington

John Edgington is reader in experimental physics at Queen Mary College, London.

Monsters in the sky

Black Holes, White Dwarfs and Neutron Stars: the physics of compact objects
by S. L. Shapiro and S. A. Teukolsky
Wiley, £37.95 and £20.45
ISBN 0 471 87317 9 and 87316 0

We live in a Universe where, aside from a few isolated pockets of resistance, gravity rules supreme. It keeps our feet firmly on the ground, and dictates the diurnal motions of the Earth, the tides and the seasons. Beyond our solar system, however, its manifestations are not always so mundane: astronomers have discovered gravitating systems that are among the most extraordinary objects in the Universe.

Imagine a region the size of London spinning around six hundred times every second. Imagine taking a thimble-full of material and discovering that it weighs more than the whole of humanity put together. Imagine an object that emits more energy in one second than the Sun does in ten thousand years. These are just a few of the observed phenomena whose origin and existence modern astrophysicists are challenged to explain in detail.

Nor are pulsars, neutron stars and quasars the end of the story. In recent years, the development of instruments with increased sensitivity and resolving power, together with the use of satellite and rocket technology, has enabled astronomers to scan the Universe right across the electromagnetic spectrum. The results have been spectacular and have revealed even more cosmic "monsters": bursting x-ray sources, a binary pulsar, likely black holes, and huge jets of radio waves larger than entire galaxies.

For those who wish to pursue a serious mathematical study of these exotic astrophysical phenomena, or be ready to analyse new ones, it is hard to imagine a better book than this one. Shapiro and Teukolsky have produced an up-to-date, accurate and lucidly written textbook for graduate students or advanced undergraduates in physics and astronomy who have no previous knowledge of relativistic astrophysics. It is self-contained, proceeds from first principles to the frontiers of modern knowledge and includes all the steps along the way, together with hundreds of problems (plus answers) to add a little interest to the journey. The authors also provide a number of mini-projects that require the use of a small computer for their solution and provide the reader with detailed bibliographic information about the research literature. These features combine to make the text ideal both for course teaching or private study.

It is difficult to find weak points in a book of this quality, but if there is one it is the chapter giving a brief introduction to general relativity. In view of the subsequent study of black holes, accretion disks and gravitational waves, it would have been well worth adding the further ten or fifteen pages necessary to derive Einstein's equations rigorously. Also, the opening chapter devoted to the demography of dead stars was unnecessarily long and detailed, and perhaps the Hagedorn equation of state was given too optimistic a treatment in the discussion of high-density matter.

These minor criticisms must, however, be seen alongside nearly six hundred pages of carefully presented high-level material, virtually none of which can be found in other textbooks. If you are a physicist looking for something interesting to study or a student wondering about the possibility of graduate study next year you might do well to take a look at this book.

John Barrow

John Barrow is lecturer in astronomy at the University of Sussex.

A collection of papers, with commentary, by Chen Ning Yang has been published by Freeman as *Selected Papers 1945–1980* at £34.95 and £16.50. Arranged chronologically, the papers cover much of Yang's work in elementary particle physics, priority for inclusion going to papers which had not previously been published or which are not easily available. Professor Yang's commentary is primarily intended to trace his personal development as a physicist, and is not meant to be a review of his work or how it relates to current research.

Modern Algebra
a constructive introduction
I. Connell
A self-contained and detailed text presenting a fine blend of modern and classical algebra.
£16 boards 464 pages

Rings, Fields and Groups
an introduction to abstract algebra
R. B. J. T. Allenby
An introduction to some of the results, methods and ideas which are now commonly found in undergraduate courses on abstract algebra.
£9.95 paper 320 pages

Principles of Real Analysis
C. D. Aliprantis and O. Burkinshaw
'A very good text . . . this book is on a par with its best competitors.' *THES*
£16 boards 300 pages

Calculus
pure and applied
A. J. Sherlock, E. M. Roebuck and M. G. Godfrey
This text develops the ideas of calculus logically, explaining the principles and demonstrating them to be physically plausible.
£7.95 non-net paper 544 pages

Foundations of Optical Waveguides
Gilbert H. Owyang
This text concentrates on the electromagnetic theory needed to understand the fundamentals of transmission of information in optical communications.
£25 boards 262 pages

Principles of Superconductive Devices and Circuits
T. van Duzer and C. W. Turner
A discussion of the principles behind the developments which have been made and their application in a wide range of circuits and devices.
£22.50 boards 384 pages

Edward Arnold
41 Bedford Square, London WC1B 3DQ
(858)

NEW STATISTICS BOOKS FROM CHAPMAN & HALL

Two books which demonstrate how recent developments in statistical theory and computation are used to provide a unified approach to some of the most commonly used statistical methods.

..... The introductory textbook
An Introduction to Statistical Modelling
A.J. Dobson, Department of Mathematics, Statistics and Computer Science, University of Newcastle, New South Wales, Australia
This book explains the origins of generalized linear models and demonstrates the value they have in aiding anaylsis of diverse groups of data such as are encountered in the biological, health and social sciences. It assumes that the reader has a working knowledge of basic statistical concepts and methods and some acquaintance with calculus and matrix algebra. Illustrative numerical examples are used and exercises are provided at the end of each chapter.
October 1983 Hardback 0 412 24880 6 £10.50
Science Paperback 0 412 24860 3 £5.95

...... The definitive account
Generalized Linear Models
P. McCullagh, Department of Mathematics, Imperial College, London
J.A. Nelder, Statistics Department, Rothamsted Experimental Station
This book provides a unified treatment of methods for the analysis of diverse types of data commonly met in the biological, health and social sciences, and also in insurance, food processing, and engineering.
In addition to ordinary linear regression and analysis of variance models, the class of generalized linear models includes linear logistic and probit models for binary responses, log-linear models for counted data, certain models for survival data and various models for data with constant coefficient of variation.
September 1983 Hardback 0 412 23850 0 £15.00

Statistics for Analytical Chemists
R Caulcutt and R Boddy, Statistics for Industry, UK
This book illustrates the application of statistical techniques to the evaluation of laboratory test methods. Very few statisticians have experience in this area and very few books are concerned with the statistical problems of the analytical chemist. No prior knowledge of statistics is assumed and the authors adopt a non-mathematical, problem centred approach which makes the book much more readable than others in this area.
September 1983 Hardback 0 412 23730 X £22.50

Chapman and Hall,
11 New Fetter Lane, London EC4P 4EE

BOOKS

MATHEMATICS AND PHYSICS

Ultimate theory of nature

Supersymmetry and Supergravity
by Julius Wess and Jonathan Bagger
Princeton University Press,
£34.50 and £10.90
ISBN 0 691 08327 4 and 08326 6
Superspace or One Thousand and One Lessons in Supersymmetry
by S. J. Gates, Jr, M. T. Grisaru, M. Roček and W. Siegel
Addison-Wesley, £40.80 and £21.25
ISBN 0 8053 3160 3 and 3161 1

The quest for the ultimate theory of nature, unifying all the known forces – electromagnetism, radioactivity, nuclear and gravitational – received a great boost at the beginning of this year by the discovery of the so-called "intermediate vector bosons" at the high-energy particle accelerator at the European Organization for Nuclear Research in Geneva.

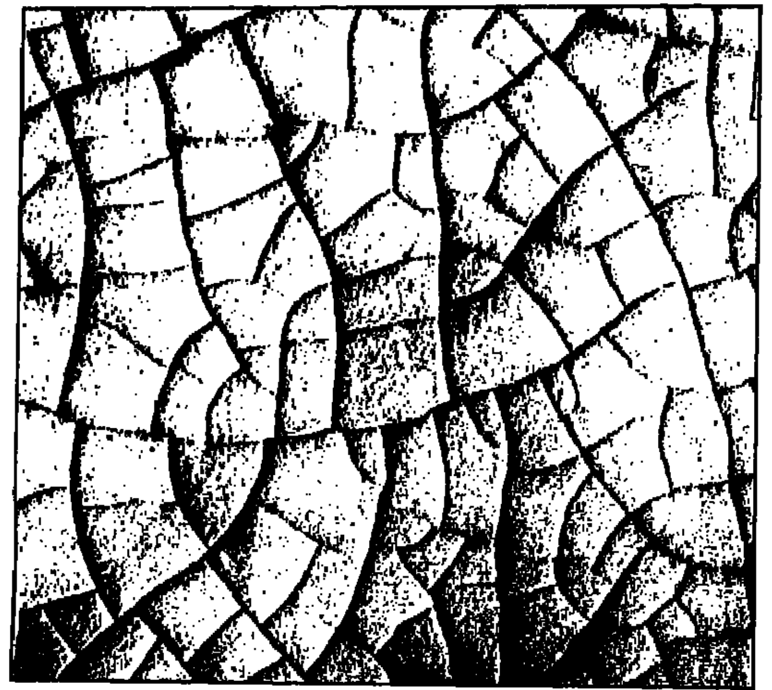
These newly discovered particles are heavier companions to those of light – called photons – and their existence and properties were predicted as a crucial feature of the unification of the two forces of electromagnetism (itself produced as a unification of electricity and magnetism by the British scientist James Clerk Maxwell in the early 1860s) and radioactivity. The force of electromagnetism is produced between electrically charged particles by the exchange of the photons mentioned above, so to unify electromagnetism and radioactivity this latter force would have to be achieved by the exchange of suitable companions to photons. The details of this unification were worked out in the 1960s by the American scientists Sheldon Glashow and Steven Weinbereg and their Pakistani colleague Abdus Salam, and the corresponding particles to the photon – the intermediate vector bosons, or Z and W – were then discovered at the turn of this year by a large team of scientists headed by Carlo Rubbia.

The crucial feature which allowed this unification to occur was that of symmetry: electromagnetism and radioactivity are two aspects of the same underlying force (the "electroweak" force). Further symmetries which combine this latter and the nuclear force have been proposed and their experimental verification is urgently being sought, especially in the as yet unseen decay of the proton. But symmetries which might unify the first three forces with the remaining force, that of gravity, have proved difficult to find. The solution to this problem could well lead to the ultimate force of nature; as such it can be regarded as the "holy grail" of scientific endeavour.

There are two seemingly different difficulties which presently stand in the way of this final unification. The first is that the underlying probabilistic nature of all matter at sub-nuclear level – its so-called "quantum" features – has so far proved impossible to build into theories of gravity. All theories of "quantum" gravity so far attempted have given nonsensical predictions for any physically observable quantity. The second problem is that through the genius of Albert Einstein we know that the force of gravity is equivalent to that of curvature of space and time near massive bodies. However the other forces of nature decidedly do not arise as curvature in space-time; in any case that possibility has been used up for gravity.

During the past decade a possible way has been discovered to solve simultaneously both of these seemingly intractable problems. It involves positing a new symmetry of nature, called supersymmetry, which, in its most extended form, tries to relate all the particles of nature together. In its most reduced form it requires that all particles of matter – electrons and the sub-nuclear particles – have supersymmetric partners which have similar properties to photons and intermediate vector bosons. Furthermore these latter must also have their supersymmetric partners, which have properties similar to electrons and sub-nuclear particles. It has even been possible to construct supersymmetric versions of gravity, called supergravity. These involve the "particle" of the force of gravity – the graviton – and at least one supersymmetric partner called the gravitino.

The reason for the present intense interest among physicists in supergravity and supersymmetric versions of the electroweak force and the nuclear force is that their quantum versions are better behaved. This is not so crucial for the other forces besides gravity, since they are already well-enough behaved to be directly testable, but the improved quantum properties of supergravity are a possible hint to a sensible quantum theory of gravity. This improvement increases if the supersymmetry itself is as large as possible (in a technically well-defined sense). It is not yet known if such a "maximally-extended" supergravity has a completely sensible quantum version.


Although the patterns we observe on the shore of a river when the mud has been dried by the sun seem to be quite irregular, as a rule they show right angles. This can be explained by assuming that the cracking is an effect of contraction: the line appearing as a fissure has, by a principle of mechanics, to make the work of disjunction as small as possible. As the work is proportional to the areas of the sections and as the lines must have a course such as to minimize the surfaces laid open by the fissure, right angles are produced (if the clay is homogeneous), the varying thicknesses of the layer accounting for the curvature of the lines. Taken from the third American edition of H. Steinhaus's *Mathematical Snapshots*, published by Oxford University Press at £5.95.

The techniques needed to obtain the answer to this fundamental question are also relevant to formulating theories of both gravity and the other forces as curvature. For extended supergravity theories can be most elegantly formulated as theories of curved "superspace," which has at most seven extra dimensions of the usual sort and further dimensions which have no chance of being observed directly. It is the construction of the appropriate geometry of a suitably curved higher dimensional superspace which, it is hoped, will be the key to unification of all of the forces of nature.

Supersymmetry and supergravity are now topics of the utmost research interest, and their concepts are finding a wide variety of applications outside the questions to which I have already referred. There have now been hundreds of papers published on the subject. There have also been many experimental searches made for the expected super partners of the known particles, though presently to no avail. These two books are the first accounts of the subject to appear in a form available to a range of interested readers, although conference and "summer" school collections of articles devoted solely to supersymmetry and supergravity have been available in book form for about a year.

The main difficulties of any such books on supersymmetry and supergravity are that they are accounts of a very rapidly developing subject. It is also very technical. Mastery of the complexities of any subject is not necessary to understand its aims and present successes but it is essential if a reader wishes to enter the field and contribute ot it.

Both books concentrate on the most well-defined technical parts of the subject, these being the construction of the classical versions of minimal (so-called "unextended" or "$n = 1$") supersymmetry and supergravity in terms of a suitably curved superspace. There is then discussion as to how the supersymmetry may be broken, an essential feature in a world in which superpartners of the known particles have yet to be discovered. The subtleties of the quantum properties of the theories are then discussed in terms of "supergraph" rules. Prerequisites to both books are the classical and quantum theory of gauge fields and the differential geometric approach to gravity.

Both books cover almost the same ground, but do so very differently. That by Bagger and Wess is written in a sparse but elegant manner (with a considerable amount of interesting material set as questions at the end of each chapter), whereas that by Gates, Grisaru, Roček and Siegel is detailed to the point of prolixity. An entry into supergravity research could be well made by reading the shorter book thoroughly first and then going through the much longer one, more leisurely following the authors "hitchhikers" guide. Neither book addresses itself to extended supersymmetric theories (for which the quantum properties can be quite remarkable) or extended supergravities (with their exciting geometric features presently being unravelled). Nor is there discussion of relation either to the world of experimental high-energy physics or cosmology (where supersymmetry and supergravity have made an important recent impact) or mathematics (with similar features).

Having said that, and noted the lack of index in the shorter book and references in the longer, both books are crucially important to the active or aspiring research worker in this field and should provide valuable access to the subject.

J. G. Taylor

J. G. Taylor is professor of mathematics at King's College, London.

Dutch ventures

Haphazard Reality: half a century of science
by Hendrik B. G. Casimir
Harper & Row, £12.50
ISBN 0 06 337031 X

As the third in a series sponsored by the Alfred P. Sloan Foundation and designed "to make the process of scientific discovery more understandable, more real, and more exciting to the general reader", this well-written book provides a fascinating account of some of the life history of its author: the quondam director of Philips research laboratories in the Netherlands and a man who has had a very striking influence on the scientific world there. His easy style and command of languages is well known – he is an automatic first choice as an after-dinner speaker, and the text of his famous speech about the physicist's lingua franca, Broken English, is included.

After an opening chapter on family background and schooldays, Casimir then discusses the development of physics up to the birth of quantum mechanics and his own scientific life. In 1928 Casimir came to Leiden to study theoretical physics under Paul Ehrenfest, whose critical assessment of early work in quantum mechanics had such a great influence on later developments. After finishing his first degrees he went to Copenhagen where he worked with Niels Bohr, whose postulations about atomic structure led to the birth of quantum theory. And then he became assistant to Wolfgang Pauli – the eminent theorist who won the Nobel prize for his key role in the revolutionary new science of quantum mechanics. He returned to Leiden in 1933.

These chapters about with sketches of many of the great (and some of the perhaps not so great) men of twentieth-century physics, among them Lorentz, Ehrenfest, Dirac, Pauli, Bohr, Landau, Gamow, Gorter, and Kramers. Although in general these biographical sketches are sympathetic, there is one notable exception – Kamerlingh Onnes, who discovered that the electrical resistance of some metals disappears completely below a certain very low critical temperature, a phenomenon known as superconductivity, in 1911.

Just after the war, Cambridge bungled their attempt to get Casimir to succeed R. H. Fowler at the Cavendish Laboratory – they dithered and by the time they gave him a firm invitation he had already become head of the Philips Research Laboratory, where he had worked since 1942 and where he was to stay until his retirement. Here he could give free rein to his inclination to influence and stimulate people through discussing their work and using his extensive and profound knowledge of physics to provide advice. Being a cultured, widely-read and articulate scientist his advice was sought in many fields – and not just in the Philips organization, where he became a member of the Board of Directors. In this way, far more than through his scientific work, he has had a major impact on scientific life in the Netherlands.

At the end of the war when the southern parts of the Netherlands were free, but the northern parts, containing all the Dutch universities, were still occupied, a temporary university – later to become the second Dutch Technical University – was set up in Eindhoven. Casimir describes this venture and the care this institution took to admit only students whose behaviour during the German occupation had been impeccable. He then concludes his book with an account of the establishment and development of the Philips Research Laboratory and a discussion of the interplay between science, technology and industry.

Casimir only very briefly discusses his own contributions to theoretical physics. The so-called Casimir operator first appeared in his doctoral thesis – a rather mathematical piece of research on group theory; and his essay on the interaction between electrons and nuclei won him the gold medal from the Teyler Foundation. His most important piece of research, however, is probably the work on long-range van der Waals forces carried out during his early years at Philips. His total scientific oeuvre is not very large; and he has stated himself that Ehrenfest was disappointed in him, as he never showed the utter dedication of a true theoreticaly physicist.

Although this book is an excellent one, it could have been even better. The reason for this may be Casimir's own feelings about what one can and one cannot write about. As he states: "When you have been in a position of authority you should never write critically or facetiously about your colleagues and even less about those who were in some ways your subordinates. You would betray their confidence, if you did".

Even so, the omissions from this book are in some ways as interesting as what has been included. After the war Casimir was the author of a report which led to the great expansion of the Dutch universities. It would have been interesting to hear whether he feels that in this case "more and larger" has meant a lowering of standards. He points out the prominent position in the world occupied by the Kamerlingh Onnes Laboratory and Leiden physics before the war, but he does not discuss why this laboratory no longer ocupies this position – although he himself must know some of the reasons.

Also, as Casimir was President of the European Physical Society, a body – unfortunately like too many international organizations – prone to petty bickering and jockeying for positions of national advantage, I would have liked to have been taken into its inner chambers.

These reservations, however, are minor ones, and my overall impression remains of a fascinating account of the development of physics during the past fifty years.

Dirk ter Haar

Dirk ter Haar is senior science fellow at Magdalen College, Oxford, and university reader in the department of theoretical physics at the University of Oxford.

π **Research Notes in Mathematics from Pitman**
– written especially for today's mathematicians

Distinctive red paperbacks, covering the latest developments in modern specialist mathematics

Coming Soon – the 100th Research Note in the series – to be published in April 1984

Pitman also publish the following major series in mathematics:

Monographs and Studies in Mathematics

Surveys and Reference Works in Mathematics

Applicable Mathematics

For a copy of our complete *Mathematics* catalogue, contact **The Promotion Department, Pitman Publishing, 128 Long Acre, London WC2E 9AN. Telephone 01 379 7383**

Pitman

JOURNALS

MATHEMATICS AND PHYSICS

Teaching physics

European Journal of Physics: a Journal of the European Physical Society
edited by G. W. Series
Quarterly
£35.00 per annum
published by the Institute of Physics (Adam Hilger)

European Journal of Physics publishes articles in two main categories. The first concerns the teaching of physics, primarily in universities, including alternative approaches to topics, methods of teaching, research into teaching and learning, and the university education of school teachers. The second category comprises papers which reflect on the fundamentals of physics, which offer new insights into known phenomena, which relate physics to other disciplines, or which discuss cultural implications of physics.

The journal is the European counterpart of the longer established *American Journal of Physics*, and shares many of the same qualities. Unlike the American journal, however, it publishes in European languages other than English, although in practice this has meant relatively little, with occasional articles in French or German being carried.

Like the American journal, the most frequent kind of article is a discussion of some theoretical issue in a field of physics relevant to undergraduate teaching, such as thermodynamics, relativity, or field theory. Although some are very valuable in showing how to present established theory from a new point of view, there is always the danger of letting the journal be a home for minor reworkings of old ideas. More consistently useful are accounts of new undergraduate experiments or projects, including nowadays examples of computer aided instruction and experiments interfaced to a computer. Over the years these articles can form an invaluable teaching resource, and for this reason alone the journal deserves a place in any physics departmental library.

The constant difficulty faced by the editors (and a complaint voiced from time to time in the American journal), is the difficulty of attracting a sufficient quantity and quality of specifically educational contributions. Papers in physics, containing not quite enough novelty for publication in research journals, but with some worth, are a frequent byproduct of research and of teaching, and are easy for referees to evaluate. Papers in physics education, by contrast, depend on more time being devoted to educational research than most university teachers can easily find; they are also harder to evaluate. The result is that only a minority of papers are directed at the central concerns of the journal.

However, the editors have so far managed not to publish material which (in the cruel words of another reviewer) fills a much needed void. As a European venture, it has a potentially important role to play in widening and deepening the vision university physics teachers in Europe and elsewhere could have of the content of their teaching and of the problems of teaching it well.

Jon Ogborn

Jon Ogborn is reader in physics education at Chelsea College Centre for Science and Mathematics Education, University of London.

Practical algorithms

IMA Journal of Numerical Analysis
edited by K. W. Morton and M. J. D. Powell
Quarterly
£64.70 per annum
published by Academic Press

Numerical analysis is concerned with the derivation and analysis of numerical methods of solving mathematical problems (often arising from the modelling of physical and other processes) for which analytic solutions cannot be found. The advent of more powerful computers has increased rather than diminished the need for reliable, accurate numerical methods (or algorithms) so that numerical analysis has become an important branch of mathematics.

Originally, *The Institute of Mathematics and its Applications Journal* was intended to cover research in all areas of the application of mathematics, with the emphasis on breadth rather than specialization, but from the beginning there were a number of articles on numerical analysis. However, because of the increasing amount of work carried out in this field by British universities and research establishments and also because of a reduction in the number of articles in numerical analysis published by the *Computer Journal*, the editors of the *IMA Journal* created this new specialist journal in 1981. The general field of applied mathematics, however, continues to be covered by the parent journal, now called the *IMA Journal of Applied Mathematics*.

The stated policy of this new international journal is to publish original contributions to all fields of numerical analysis; articles should treat the theory, development or use of practical algorithms and interactions between these aspects. Occasional review articles will be published in consultation with the editors. As one would expect, the majority of articles give the derivation and description of an algorithm, together with numerical results to illustrate its use and effectiveness. Areas covered in the last four issues include error analysis, interpolation and quadrature, ordinary and partial differential equations including moving boundary problems (using finite difference and finite element methods), integral equations, matrices, eigenvalues and linear equations, nonlinear equations and approximation. Each article is preceded by a brief summary, which is extremely useful for a quick appraisal.

How does it compare with other journals in its field, such as the *Society of Industrial Applied Mathematics Journal of Numerical Analysis, Mathematics of Computation, Numerische Mathematik* and *Nordisk tidskrift for informations behandling (BIT)*? Compared with all except the last three, the new journal is relatively small in terms of number of articles, but (perhaps partly as a result of this) has a considerably shorter time delay between (final) submission of articles and publication (currently averaging less than six months), a useful advantage in a rapidly developing field.

The international reputation of the new journal may be judged by the geographical distribution of the authors of its articles; in the last four issues nearly half were from Great Britain and Ireland, a quarter from the rest of Europe and just under sixth each from America and the rest of the world.

John Gilbert

John Gilbert is senior lecturer in mathematics at the University of Lancaster.

Journal of Molecular Graphics edited by A. J. Morffew, is published quarterly in association with the Molecular Graphics Society by Butterworth Scientific at £45.00 (single copies £13.50).

Efficient algorithms

Journal of Algorithms
edited by D. E. Knuth and H. S. Wilf
Quarterly
£78.50 per annum
published by Academic Press

One of the central and most difficult tasks in computer science is the invention of a new algorithm for the solution of a freshly posed or previously solved problem. The difficulty associated with this activity is reminiscent (as one might expect) of that which attends the discovery of a new mathematical theorem. Very often elegance of formulation, economy of expression and perspicuity of proof are the hallmarks of an important theorem or algorithm.

However, these qualities are not, in themselves, sufficient to guarantee the wide acceptance or survival of an algorithm for the solution of even important problems; to be successful it must, in addition, be capable of efficient execution on a variety of machine architectures – a requirement which has no analogue in mathematics. Thus, an important aspect of the study of algorithms is concerned with the measurement of their efficiency by means of complexity analysis.

The commendable aim of the *Journal of Algorithms*, now in its fourth year of publication, is to focus the attention of the computing community on these fundamental aspects of its discipline by providing an outlet for the dissemination of new or improved algorithms in a variety of areas of discrete mathematics – including graph theory, computational geometry, arithmetic and optimization – and for the communication of results on their complexity. Thus the journal is, for non-numerical computer scientists, the counterpart of long-standing numerical mathematical publications such as *Numerische Mathematik* and more recent periodicals such as the *Institute of Mathematics and its Applications Journal of Numerical Analysis*.

In contrast to the algorithms sections which appear in publications like the *Computer Journal* and the clutch of periodicals from the Association for Computing Machinery, contributors are not required to supply machine-executable versions of algorithms. This is a sensible policy which permits the use of high level abstraction, with all of its benefits, in the description of algorithms and relieves the reader of the tedium of understanding obscure implementation details and unravelling uncongenial data representations. However, the presentation of algorithms could be improved considerably in many instances if the use of a standard programming notation for their expression was insisted upon.

To its credit the editorial policy recognizes the intimate relationship which exists between algorithm efficiency and choice of data structures. This close connexion is particularly important in applications such as artificial intelligence and related areas in which the rapid processing of very large data structures is crucial. It is also gratifying to note that some recent papers are concerned with the substantial impact of multi-processor architectures on the design and performance of algorithms. Each issue also includes an interesting problem section with solutions being supplied by the contributor or, if not, with an invitation to readers to supply theirs, and a substantial section devoted to new developments in the NP-completeness field. Contributions to the latter highlight the surprising variety of problems which belong to this class and provide opportunities for cross-fertilization of ideas from disparate subject areas.

The journal publishes papers of high academic quality but of wide enough appeal and range to be accessible to specialists in fields not directly associated with computing. Pure mathematicians, particularly those interested in graph theory, coding theory and number theory, should find something to whet their appetites in every issue. Applied mathematicians, particularly those interested in operational research, queueing theory and discrete optimization may learn about, and perhaps lend their expertise to the solution of, problems which may lie somewhat outside their experience.

Perhaps the *Journal of Algorithms* will be a powerful catalyst in furthering the long overdue reconciliation of computer science, the Cinderella of the mathematical sorority, with her elder but no less enchanting sisters with whom, in her infancy, she had such close familial ties.

Maurice Clint

Maurice Clint is lecturer in computer science at the Queen's University of Belfast.

Applied maths

Advances in Applied Mathematics
edited by Gian-Carlo Rota
Quarterly
£65.75 per annum
published by Academic Press

Now in its fourth volume, this journal aims to publish research papers in any area of applied mathematics, with particular emphasis on papers that represent a substantial advance in their field and which are stylistically attractive. It also aims to publish some expository surveys, although in recent issues by far and away the majority of papers describe original work.

Its American editor is also the editor of another Academic Press journal, *Advances in Mathematics*, so it would seem that this new one (with a similar format) is intended as its applied mathematics equivalent. The journal has a large, distinguished and predominantly American editorial board, the overall interests of whose members cover a very wide range of applications of mathematics including mathematical physics, theoretical mechanics, economics, systems and control theory, numerical analysis, and linguistics. So far, contents indicate that they intend to interpret applied mathematics in an American rather than a British sense, so that the emphasis is similar to that of journals such as the *Society of Industrial Applied Mathematics Journal of Applied Mathematics* and the *Journal of Mathematical Analysis and its Applications* rather than, say, the *Quarterly Journal of Mechanics and Applied Mathematics*.

Papers published in the most recent issues do reflect a wide range of applications of mathematics. Theoretical physics is best represented but there are also papers on systems theory, waves, heat flow, reaction-diffusion equations, ordinary differential equations, queueing theory, stochastic processes and numerical analysis, as well as a very readable paper on the mathematics of perfect shuffles of a pack of cards. With the exception of one in French all papers are in English.

The distinction of the editorial board and the quality of the papers so far published suggest that this journal will soon establish itself as a major one in its field and one that university libraries should seriously consider obtaining.

W. D. Collins

W. D. Collins is professor of applied mathematics at the University of Sheffield.

Complex analysis

Complex Variables: theory and application: an international journal
edited by R. P. Gilbert and Klaus Habetha
Four issues per volume block
£134.00 for four issues
published by Gordon & Breach

The editors of this new journal, the first volume of which has appeared during the past academic year, define the area it covers as classical function theory of one and several complex variables, generalizations thereof, and the novel application of complex analysis in science and engineering.

Although an absolute need for a new journal is difficult to establish, in this case the motivation is clear: there are successful specialist journals devoted to various mathematical fields – *Topology, Journal of Differential Geometry, Journal of Algebra*, and so on – but in complex analysis there is no such specific journal. However, there is no shortage of outlets for material in complex analysis; indeed, most mathematical journals are not restricted by field at all. And although one could argue the merits of either convention, a mixture of the two is preferable.

If there is a gap to be filled by a specialist journal dealing with complex analysis then *Complex Variables* only partially fills it. Its restriction to more classical themes seems a little narrow as compared with the specialized journals cited above. A broader definition would allow much more from the theory of several complex variables, perhaps with related algebraic and differential geometry. Such a widening of scope would also allow for more of the "novel applications" requested by the editors. It might also encourage more authors to submit papers and hence enable strict refereeing to control the academic standard of the journal.

These points are reflected in the first volume. Out of 20 articles only two are concerned with several complex variables and only two or three with "applications". The emphasis on classical analysis includes, rather curiously, one article on measure theory which never mentions complex variables. Another curious point is that, even though authors are asked to restrict their manuscripts to less than fifteen pages, almost all the published articles are longer, even when broken into two adjacent subarticles for no apparent reason.

Despite my reservations, the journal contains many interesting articles of a high academic standard and has definite potential if only more authors can be persuaded to submit papers.

Michael Eastwood

Michael Eastwood is a SERC fellow at the Mathematical Institute, University of Oxford.

Laser Chemistry: an international journal (for review, see *THES*, 16th September, 1983) is published by Harwood Academic, which is editorially distinct from Gordon & Breach.

Laser and Particle Beams: physics of high energy densities, the first volume of which is published this year, is edited by Heinrich Hora and published quarterly by Cambridge University Press at £50.00 per annum.

Critique of Scientific Reason

by Kurt Hübner

translated by Paul R Dixon Jr & Hollis M Dixon

This book presents a systematic critique of the notion that natural science is the sovereign domain of truth.
Using an extensive and detailed investigation of physics – and in particular of Einstein's theory of relativity – as his foundation, Kurt Hübner argues that the positivistic notion of rationality is not only wrongheaded but false; it ignores both the historical dimension of science and the basic structures common to scientific theory, myth, and so-called subjective symbolic systems. Moreover, Hübner argues, positivism has lead in our time to a widespread disillusionment with science and technology, an attitude as dangerous and misleading as its opposite. Hübner's solution to the problem posed by his critique is to place science as a special case within the larger and more general sphere of human cognition. He examines the status of artistic, spiritual, religious, and moral experience and concludes that mythic thought has as much claim to rationality as has science. Thus avoiding the weaknesses of the Marxist and humanistic positions toward science, Hübner accords it – in the fashion of Kant and Cassirer – a place of respect that nonetheless acknowledges its limitations.
October 1983, £22.00

CHICAGO
The University of Chicago Press,
126 Buckingham Palace Road, London SW1W 9SD

CLASSIFIED ADVERTISEMENTS

The Times Higher Education Supplement

to place advertisements write to or telephone:

The Advertisement Manager,
The Times Higher Education Supplement,
Priory House, St John's Lane, London EC1M 4BX.
Tel: 01-253 3000. Telex 264971

Rates:	copy deadlines:
Classified Display – £11.80 pscc Minimum size: 9cm×1 col @ £106.20 Classified Linage – £2.30 per line Minimum 3 lines – @ £6.90 Box number – £2.00	Classified Display: Friday in the week prior to publication Classified Linage: Monday 10.00 am in the week of publication

Appointments

Universities
Fellowships
Research and Studentships
Polytechnics
Colleges of Higher Education
Colleges with Teacher Education
Colleges and Institutes of Technology

Technical Colleges
Colleges of Further Education
Colleges and Departments of Art
Administration
Overseas
Adult Education
Librarians
General Vacancies
Industry and Commerce

Other classifications

Exhibitions
Awards
Conferences and Seminars
Courses

Personal
For Sale and Wanted
Holidays and Accommodation

All box no. replies should be sent to THES at the above address

Universities

THE CHINESE UNIVERSITY OF HONG KONG

Applications are invited for the following posts:

FACULTY OF BUSINESS ADMINISTRATION

Department of Accounting and Finance

1. Senior Lecturer/Lecturer (*ref. 51/509/2/83*) – The appointee will be required to teach one or more of the following courses: Financial Accounting, Management Accounting, Management Information Systems, Accounting Theory, Company Law, Auditing, Investment, Insurance, Real Estate, Financial Markets and Institutions and Financial Theory. Applicants should preferably possess a doctorate, but those with an MBA and appropriate experience will also be considered.

Department of General Business Management & Personnel Management

2. Senior Lecturer/Lecturer (ref. 47/509/2/83) – The appointee will be required to teach courses in Organization and Management Theory and Business Economics. Applicants should have a higher degree (preferably a Ph.D. or D.B.A.) in Business Administration with appropriate university teaching and/or research experience in two or more of the following areas: Management Strategy and Policy, Organization Theory, Human Resource Management, Operations Management and Economics for Business.

Department of Marketing and International Business

3. Senior Lecturer/Lecturer (ref. 48/509/2/83) – The appointee will be required to teach both undergraduate and graduate classes (two course load each semester) in Industrial Marketing, Marketing Policy, Consumer Behaviour and Transnational Corporations. Applicants should show clear indication of strong interest in research and teaching; preference will be given to candidates with earned doctorate in Business Administration.

MBA Division

4. Lecturer/Assistant Lecturer (ref. 49/509/2/83) – Our MBA Division offers a full-time MBA Programme as well as an evening three-year MBA Programme for practising managers. Applicants should possess a Ph.D. degree, preferably with some business and/or teaching experience. The appointee will be required to teach in the area of Finance/Accounting, supervise research projects, advise students and participate in various faculty committees. Courses to be offered include: Financial Management, Seminar in Finance, Seminar in Financial Institutions, Security Analysis and Portfolio Management, Accounting, Managerial Control Systems and Seminar in Accounting.

FACULTY OF SOCIAL SCIENCE

Department of Social Work

5. Senior Lecturer/Lecturer (ref. 50/509/2/83) – The appointee will be required to teach courses in direct social work practice (social work methods courses), or in a specialized area such as rehabilitation, the elderly and child care. Applicants must have at least an MSW or its equivalent; holders of a doctoral degree are preferred. The appointee must be prepared to teach in the summer term, if required.

Date of assumption of duty: 1st August, 1984

Annual salary

Senior Lecturer HK$211,200 – 283,740 by 6 increments
Lecturer HK$135,780 – 154,140 by 2 increments BAR
HK$163,260 – 227,100 by 7 increments
Assistant Lecturer HK$99,060 – 126,600 by 3 increments
Exchange rate approximately: US$1=HK$7.8, £1=HK$12.

Starting salary and grade will depend on qualifications and experience.

Conditions of service: Benefits include sick leave, vacation leave, long leave with pay, superannuation (University 15%, appointee 5%), medical benefits, education allowance for children and housing allowance for those whose annual salary is HK$144,960 or above, and for appointees on overseas terms, passage benefits for themselves and their dependants as well.

Application procedure: Applications should be made out in duplicate, giving full particulars, experience and the names and addresses of 3 persons to whom reference may be made, and sent together with copies of certificates/diplomas/testimonials and recent publications to the Personnel Section, The Chinese University of Hong Kong, Shatin, N.T. Hong Kong not later than 30th November, 1983 for post 2, 3 and 5, and 15th February, 1984 for post 1 and 4. Please quote appropriate reference number and mark 'Recruitment' on cover.

(15937)

Brunel University

Office of the Secretary General and Registrar

FACULTY OFFICER SCALE IA–II

Applications are invited for the post of Faculty Officer in the Faculty of Technology. The post will also carry some additional duties within the central Registry. Applicants should be graduates, or possess academic or professional qualifications to a similar level, and have previous work experience, ideally within educational administration.

The Faculty Officer scale progresses from Grade IA (£6,310 – £11,615) to Grade II (£11,160 – £14,125), plus £1,186 per annum London Allowance, subject to satisfactory ????? performance. The position carries Universities' Superannuation Scheme benefits. The initial grade will be determined in the light of the appointment made.

Candidates should apply by letter to the Personnel Secretary, Brunel University, Uxbridge, Middlesex, UB8 3PH from whom additional information can be obtained on receipt of a self-addressed envelope (postage will be paid). Closing date: 25 November 1983. H1

University of Cambridge King's College

CHAPLAIN

In Holy Orders of the Church of England to take pastoral care of students and choristers and participate in services from September 1984.

Details from the Dean's Secretary, King's College, Cambridge, CB2 1ST Tel: 0223 350411.

Closing date for applications 25 November 1983. H1

University of Bristol

Department of Mechanical Engineering

CAD/CAM LECTURESHIP

Applications are invited for a Lectureship within the Department of Mechanical Engineering to work in the areas of Computer-aided Design and Computer-aided Manufacture, including Manufacturing Systems.

The post has been created to enable the Mechanical Department to extend its activities in Design and Manufacture in collaboration with the Electronic Department and Industry; a group formed from staff within the two Departments is already actively engaged in Robotics. However, the successful candidate would be expected to liaise also with other staff working in associated areas within the Faculty.

Applicants with relevant experience in industry and/or research are sought. The commencing salary will be at an appropriate point, according to age, qualifications and experience, on the scale £7,190–£14,125 per annum.

Further details may be obtained from the Registrar and Secretary, University of Bristol, Senate House, Bristol BS8 1TH, to whom applications, together with a curriculum vitae and the names and addresses of three referees should be sent by 30th November, 1983. Please quote reference 128. H1

University of Oxford St Hilda College

TUTORIAL FELLOWSHIP IN ENGLISH LITERATURE

The College proposes to elect, with effect from 1 October 1984, a woman as Official Fellow and Tutor in English Literature, to teach primarily the twentieth century and some other period post 1400. The appointment is tenable in conjunction with a University Lectureship (CUF). Further particulars should be obtained from the College Secretary, to whom completed applications (7) should be returned by 6th January 1984. H1

University of Durham

LECTURESHIP IN CHINESE

Applications are invited for a Lectureship in Chinese language and literature in the School of Oriental Studies, to be filled from 1 October 1984.

The person appointed will have a degree in Chinese and will have taught at university or equivalent level.

The appointment will be on the lecturers' scale (£7,190–£14,125 per annum), together with normal pension arrangements.

Applications (three copies), including the names of three referees, should be submitted not later than Monday 19 December 1983 to the Registrar and Secretary, Old Shire Hall, Durham DH1 3HP, from whom further particulars may be obtained. H1

University of Surrey

Department of Electronic and Electrical Engineering

DIRECTOR OF INDUSTRIAL ELECTRONICS GROUP

Applications are invited for the post of Director of the Industrial Electronics Group within the Department of Electronic & Electronical Engineering.

The Group, which employs a team of 8 professional, technical, and other support staff, was established as a self-financing consultancy activity more than a decade ago with the objective of providing an interface between the Department's 30 Academic staff and Industry.

The Director will have a major responsibility for all aspects of the Group's work. He/she will also have the opportunity of contributing to the development of the teaching of industrial engineering in the Department's undergraduate course.

Salary: Negotiable, but in the range £13,515–£16,925 per annum.

Further particulars are available from the Academic Registrar (LFG), University of Surrey, Guildford, Surrey, GU2 5XH, or telephone Guildford (71281) ext 633. Applications from men and women, in the form of a curriculum vitae, including the names and addresses of three referees, should be sent to the same address by 19 November 1983, quoting reference 200/THES.

UNIVERSITY OF THE WEST INDIES, MONA, JAMAICA

Applications are invited for the following posts:

Lecturer/Assistant Lecturer in Physics, Mona, Jamaica

Preference will be given to applicants with experience in one of the following areas: Experimental Astronomy, Atmospheric Dynamics, Thin Films, Energy Studies. Teaching experience in Electronics also an asset. Duties to be assumed as soon as possible.

Lecturer/Assistant Lecturer in Social Work, Department of Sociology, Mona

Successful applicant will be required to assist with field work programme and teach any two of the following areas: Human Growth and Development, Social Research Methods (B.Sc. Social Work), Group Work and Community Development, Social Psychology. Duties to be assumed as soon as possible.

Lecturer/Assistant Lecturer, Department of Physiology, Mona

Successful applicant will be expected to participate in development of the teaching and research programmes of the Department which teaches undergraduate and postgraduate students in the Faculty of Medicine. Duties to be assumed as soon as possible.

Senior Lecturer/Lecturer in Community Medicine, Eastern Caribbean Medical Scheme, Trinidad

Successful applicant will be stationed in Trinidad and must be a registered *Medical Practitioner* with experience in working with people in the community. He/she will be required to teach M.B., B.S. students and to participate in General Practice/Family Medicine.

Lecturer/Assistant Lecturer in Orthopaedic Surgery, Eastern Caribbean Medical Scheme, Trinidad

Successful applicant will be attached to the Port of Spain General Hospital in Trinidad and will teach students for the M.B., B.S. degree in co-operation with the Consultant Staff of the Hospital. He/she will also hold consultant appointment and be in charge of hospital beds and out-patient clinics. Duties to be assumed as soon as possible.

Lecturer/Assistant Lecturer in Microbiology, Eastern Caribbean Medical Scheme, Barbados

Duties will include routine clinical Microbiology work for the Queen Elizabeth Hospital, Barbados, and instruction in Microbiology (Bacteriology, Virology, Mycology, Parasitology and Immunology) to students for the M.B., B.S degree. Preference to medically qualified applicants. Duties to be assumed as soon as possible.

SALARY SCALES: SENIOR LECTURER (MEDICAL) TT$84,084 × 1,908 – 91,716 × 2,028 – 101,856. LECTURER (MEDICAL) J$23,262 × 624 – 25,758 (B) × 624 – 27,006 × 723 – 29,175 plus Non-pensionable allowance J$4,808 × 201 – 6,417; TT$65,418 × 1,908 – 73,044 (B) × 1,908 – 82,584; BDS$39,348 × 1,368 – 44,820 (B) × 1,368 – 51,660. LECTURER (NON-MEDICAL) J$20,085 × 567 – 23,487 (B) × 624 – 27,231 *plus* Non-pensionable allowance J$3,603 × 201 – 6,015; BDS$31,644 × 1,368 – 39,852 (B) × 1,368 – 48,060. ASSISTANT LECTURER (MEDICAL) J$20,349 × 567 – 21,483 plus Non-pensionable allowance J$3,603 × 201 – 4,005; TT$56,512 × 1,908 – 59,328; BDS$32,256 × 1,368 – 34,992. ASSISTANT LECTURER (NON-MEDICAL) J$17,715 × 519 – 19,753 *plus* Non-pensionable allowance J$2,664 × 198 – 3,060; BDS$26,112 × 1,272 – 28,656.

Detailed applications (three copies) giving full particulars of qualifications and experience, date of birth, marital status and the names and addresses of three referees should be sent as soon as possible to the Registrar, UWI, Mona, Kingston 7, Jamaica. Applicants resident in the U.K. should also send one copy to the Assistant Secretary General (Appointments), Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF. Further details obtainable from either source. (13921)

LADY MARGARET HALL, OXFORD

E.P.A. CEPHALOSPORIN RESEARCH FELLOWSHIP

FLOREY RESEARCH FELLOWSHIP

The College invites applications for these Fellowships, both tenable for three years from 1 October 1984.

The E.P.A. Cephalosporin Fellowship is open to men and women working in the Medical Biological or Chemical Sciences. Applicants should normally have had at least two years of research experience. Stipend will be £5,500 pa, plus entitlement to free meals and residence (for a single person) in College.

The Florey Fellowship, open to women of post-doctoral standing working in any science related to Medicine, will carry entitlement to free meals in College and an honorarium of not less than £450 pa.

Suitably qualified candidates may apply for both Fellowships.

Further particulars and application forms may be obtained from the College Secretary, Lady Margaret Hall, Oxford OX2 6QA. Closing date for applications 16 December 1983. (13941)

UNIVERSITY OF STRATHCLYDE

CHAIR OF MATHEMATICS

The University invites applications for a Chair in Mathematics. The successful candidate will be expected to have an active research interest in a branch of mathematics with particular application to engineering and applied science, and will have special responsibility for the organisation of teaching of mathematics to students from other departments.

This post is central to the activities of the department, reflecting the department's interest in the application of mathematics to problems of practical interest.

Further particulars (Ref: 62/83) may be obtained from the Registrar, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ by 10th January, 1984. (13910)

Universities continued

Applications are invited for the following posts, for which applications close on the dates shown. Salaries (unless otherwise stated) are as follows: Professor $A46,977; Senior Lecturer $A30,096–$A35,077; Lecturer $A22,430–$A29,467. Further details and application procedure may be obtained from The Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF unless otherwise stated.

James Cook University of North Queensland

LECTURER IN DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

The position is available either on a temporary basis for a period of up to 3 years or on a permanent basis. The appointee will be expected to commence duty as soon as possible after appointment. Applicants must have an appropriate degree. Possession of a higher degree and evidence of relevant research or industrial experience would be a distinct advantage. The appointee will be required to lecture at all levels with a particular emphasis on network analysis and initiate and support research.
25th November, 1983.

The University of Tasmania

CHAIR OF ZOOLOGY

Faculty of Science

The Chair became vacant on the retirement of Professor B. Johnson. Applications are invited from candidates in any field of Zoology though they should have an interest in or sympathy with whole animal biology.

The present professorial salary is expected to be increased by 4.3% as a result of the recent national wage decision.
31st December, 1983.

La Trobe University Melbourne

LECTURER/ DIRECTOR, HUMAN RESOURCE CENTRE

(Tenurable or Fixed Term – 4 years) Department of Social Work School of Behavioural Sciences

As Director of the Human Resource Centre (sponsored jointly by this Department and Lincoln Institute of Health Sciences), leadership in consultation and liaison with organisations and relevant individuals in the community is required, with particular responsibility for initiating policy analysis, community education and professional development programmes, and oversight of selected research and innovative practice in the Centre. Approaches which bridge the gaps between educational institutions, service networks, consumers and the community are emphasized within an interdisciplinary orientation. These duties will be approximately 50% of the appointment.

The appointee will also have important teaching and research functions in the Department which offers the degrees of B.S.W., M.S.W., M.Beh.Sc. and PhD.

Applicants should have extensive knowledge of Australian health and welfare services, a basic social work qualification and administrative/community development abilities. A higher degree in social work desirable.

A fixed term appointment possibly at Senior Lecturer level by secondment may be made. To commence February 1984 approx.
16th December, 1983.

The University of New South Wales Sydney

DIRECTOR INSTITUTE OF LANGUAGES

The Institute offers courses in English as a foreign language, both to migrants and overseas students, courses in foreign languages, teacher training courses in these fields and other related language services. The Director will be responsible for the operation and development of the Institute, involving the control of its accommodation and technical facilities and a staff of full-time and casual language teachers and support personnel.

The Institute is an independent entity within the University but the Director will be administratively responsible through the Dean of the Faculty of Arts and will be eligible for membership of the Faculty.

Applicants should have an appropriate academic background and standing, experience in the teaching of language or linguistics and a demonstrated capacity for administration.

The position is available from the beginning of 1984 and appointment will be either with tenure or on the basis of a contract with provision for conversion to tenure.

Salary will be in the range $A30,096–35,077 per annum, according to qualifications and experience. For an appointee with superior qualifications and experience, $A39,666 per annum may be offered. Equality of employment opportunity is University policy. 2nd December, 1983.

The University of Newcastle New South Wales

CHAIR OF GEOLOGY

Applications are invited from persons with appropriate qualifications and experience for appointment to the Chair of Geology which became vacant in 1980 with the retirement of Professor B. Nashar, the Foundation Professor. There are at present seven members of teaching staff in the department.

Persons with interests in any area of Geology are invited to apply for the Chair. Currently the research activities with the Department are in Coalfield Geology, Applied Coal Petrology, Coal and Oil Shale Mineralogy, Thermal Analysis, Sulphur Isotope Geochemistry, Ore Deposit Genesis, Carboniferous Stratigraphy and Palaeontology, Igneous Petrology, Structural Analysis, Engineering Aspects of Structural Geology, and Low Grade Metamorphism.

The University maintains central services for major items of equipment. These include an electron microscope/probe unit and an X-ray diffraction unit. X-ray fluorescence equipment is available within the Department. Central computing facilities include two Digital VAX 11/780 computers and one PDP 11/70.

Interested persons are invited to address preliminary enquiries to the Dean of the Faculty of Science, Professor W. F. J. Pickering, who has available information additional to that given here, and who would be pleased to answer questions specifically related to the Department of Geology or dealing more generally with the University and its setting.

The University has provision for superannuation, and will assist with accommodation and travel expenses to the successful applicant.

The University reserves the right not to fill the post, or to fill the post by invitation. Equality of employment opportunity is University policy. 3rd December, 1983.

University of New England

LECTURER DEPARTMENT OF ACCOUNTING AND FINANCIAL MANAGEMENT

The Department of Accounting and Financial Management is one of five departments within the Faculty of Economic Studies and offers undergraduate and postgraduate courses to internal and external students in Accounting, Finance, Legal Studies and Small Business Management.

The appointee will be expected to teach courses in Taxation Law and should have a particular interest in this area. Secondary interests may be in either Legal Studies or any of the other specialist subjects taught in the Department.

Applicants should possess sound qualifications, preferably with a higher degree, together with relevant academic and/or professional experience.

Starting date for duties: 1st February, 1984. Informal enquiries to Mr Callcott, Tel (067) 73 2201.

The appointment will be to the permanent staff but the University reserves the right to make the appointment probationary where it considers this appropriate.

Other conditions include superannuation, assistance with travel and removal expenses and with buying or building a house in Armidale.

Applications including the names and addresses of three referees and stating the position number 520 should be sent to the Staff Officer, University of New England, Armidale, N.S.W. 2351 Australia, prior to the closing date. Applicants should forward a copy of this advertisement to their referees and ask them to send their reports direct to the Staff Officer, Mr B. G. Turner, marking their envelopes 'Private and Confidential' and quoting the position number, before the closing date so as to expedite the appointment process. 5th December, 1983.

FURTHER CLASSIFIED APPOINTMENTS APPEAR ON PAGE TWO

University of Oxford New College

FELLOWSHIPS

The college invites applications for the fellowships described below. Application forms and further particulars are obtainable from the Warden: applications must reach him not later than 3 December 1983. Each candidate is asked to name three referees (two for the Christopher Cox Junior Fellowship) and to request them to write directly to the Warden letters which should reach him not later than 17 December 1983. It is intended that interviews for short-listed candidates should be held at the end of January 1984.

J. ARTHUR RANK RESEARCH FELLOWSHIP

This Junior Research Fellowship, to be held on this occasion in the field of Social Studies, including Law, is tenable for three years from 1 October 1984. Other things being equal, the college would be especially interested in work relating to the European Communities.

WESTON RESEARCH FELLOWSHIP

This Junior Research Fellowship, to be held on this occasion in the field of Modern History, is tenable for three years from 1 October 1984.

CHRISTOPHER COX JUNIOR FELLOWSHIP

This Junior Fellowship has been established in memory of the late Sir Christopher Cox, for many years a Fellow of the college. The intention is that the holder should act as a link between the senior and junior members of the college, and the Fellow will be required to live in college and to take a full part in responsibilities connected with the undergraduate life of the college. The Fellow will be expected to engage in postgraduate work, in Arts or Science. The Fellowship is tenable for three years from 1 October 1984. H1

The Papua New Guinea University of Technology

Department of Mechanical Engineering

Applications are invited for the following positions in the Department of Mechanical Engineering:

ASSOCIATE PROFESSOR

In addition to energy systems and production engineering, a new post has been created for a professional mechanical engineer to provide leadership in the teaching, research and development of engineering mechanics and design.

Applicants should hold a higher degree in mechanical engineering and have had considerable experience in teaching or research, or in industry, in the field of mechanics of solids, dynamics of machines and mechanical design.

TECHNICAL INSTRUCTOR/ SENIOR TECHNICAL INSTRUCTOR/ LECTURER

Applicants should hold a trade certificate/diploma/ degree qualification in mechanical engineering and have some experience in teaching and/or industry.

The appointee will be expected primarily to teach workshop practice, engineering drawing and energy technology (prime movers — work absorbers), and to undertake administrative duties that may be directed by the Head of Department.

Salary: Technical Instructor K13,700 p.a.; Senior Technical Instructor/Lecturer K16,020 – K17,870 p.a.; Associate Professor K21,720 p.a. (K1 = Stg. 0.7741 approx.). Appointment level will depend upon qualifications and experience.

Initial contract period is for 3 years. Other benefits include a gratuity of 24% taxed at 2%, appointment and repatriation fares, leave fares for staff member and family after 18 months of service, settling-in and settling-out allowances, six weeks paid leave per year, education fares and assistance towards school fees. Free housing, salary protection plan and medical benefit schemes are available.

Detailed applications (two copies) with curriculum vitae together with the names and addresses of three referees should be received by: The Registrar, Papua New Guinea University of Technology, Private Mail Bag, Lae, Papua New Guinea, by 30 November 1983. Applicants resident in the United Kingdom should also send one copy to Association of Commonwealth Universities (Appts.), 36 Gordon Square, London, WC1H 0PF, from whom further general information may be obtained.

The University of Auckland New Zealand

(Department of Accountancy)

LECTURESHIP IN ACCOUNTING

Applicants should have a higher degree in accounting together with either a successful record in teaching and research or with appropriate professional experience. Preference may be given to a candidate with experience in auditing.

Commencing salary will be determined in accordance with qualifications and experience within the scale NZ$21,660 — $25,684 per annum.

Conditions of appointments and Method of Application are available from the Assistant Registrar (Academic Appointments), University of Auckland, Private Bag, Auckland, New Zealand, or from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. Applications, in accordance with 'Method of Application', should be forwarded as soon as possible, but not later than 15 December 1983. H1

Massey University Palmerston North, New Zealand

Department of Horticulture and Plant Health

LECTURER/SENIOR LECTURER IN HORTICULTURE

Applications are invited for a position in the Department of Horticulture and Plant Health, which becomes vacant in February 1984. Applicants should hold a degree in Horticulture, preferably with postgraduate qualifications, research and/or practical experience relevant to flower and/or nursery crops.

Main responsibilities will involve the teaching of horticultural theory and practice in degree and diploma courses within the Faculty of Agricultural and Horticultural Sciences.

Commencing salaries will be in the range *for* Lecturer: NZ$21,660 — NZ$25,684, for Senior Lecturer: NZ$27,088 — NZ$30,127, and will be determined in accordance with qualifications and experience.

Further details of the position and of the University, together with conditions of appointment, may be obtained from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. Applications should be forwarded as soon as possible to the Registrar of the University. H1

University of Reading

Department of Linguistic Science

LECTURESHIP IN LANGUAGE PATHOLOGY

Applications are invited for a Lectureship in Language Pathology from qualified speech therapists. Candidates should have clinical and research interests in the area of adult disorders.

The appointment will be for a fixed period of 3 years from 1 January 1984 or as soon as possible thereafter. Salary scale 1984 or as soon as possible thereafter. Salary scale £7,190 to £14,125 p.a. plus USS/USDPS benefits. Furher particulars and application forms (2 copies) are available from the Personnel Officer, University of Reading, Whiteknights, Reading, Berks, RG6 2AH, quoting Ref. AC8317. Closing date 21 November 1983. H3

The Queen's University Belfast

Department of Geography

RESEARCH ASSISTANT

Applications are invited from graduates to work as Research Assistant on an S.S.R.C. project to investigate the fertility of married women in Northern Ireland. Applicants should preferably be familiar with survey techniques, especially as they relate to large data sets, and with the use of computer packages. A sound knowledge of simple statistical methods and the basic techniques of demographic analysis would be an advantage.

The appointment is for 18 months from 1 January 1984.

Salary scale: £6,312 – £7,191 per annum with USS.

Applications, giving the names and addresses of two referees should be sent to the Personnel Officer, The Queen's University of Belfast, BT7 1NN, Northern Ireland. Closing date: 15 November 1983. H1

THE UNIVERSITY OF THE WEST INDIES St. Augustine, Trinidad

Applications are invited for the following vacancies

STUDENT COUNSELLOR, HEALTH SERVICES (Lecturer/ Assistant Lecturer level). Applicants should be trained in Clinical or Counselling Psychology.

LECTURER/ASSISTANT LECTURER IN STRUCTURAL ANALYSIS AND DESIGN IN DEPARTMENT OF CIVIL ENGINEERING.

LECTURER/ASSISTANT LECTURER IN ELECTRONICS, COMPUTERS AND CIRCUIT THEORY IN DEPARTMENT OF ELECTRICAL ENGINEERING.

LECTURER/ASSISTANT LECTURER IN COMPUTER SCIENCE IN DEPARTMENT OF MATHEMATICS.

Interest and experience in Data Processing and Information Systems desirable but other areas will be considered.

Salaries 1983-84: Lecturers TT$54,708 x 1,908–66,156 (Bar) x 1,908–$77,604; Assistant Lecturers TT$45,480 x 1,908–$49,296. F.S.S.U. Unfurnished accommodation if available at 10% or furnished at 12½% or housing allowance of 20% of pensionable salary. Up to five full economy passages on appointment and on normal termination. Study and Travel Grant. Detailed applications, giving qualifications and experience and naming three (3) referees, to the Secretary, University of the West Indies, St Augustine, Trinidad, West Indies. Further particulars available from the Association of Commonwealth Universities (Appts), 36 Gordon Square, London WC1H 0PF. (13939)

UNIVERSITY OF ABERDEEN

APPOINTMENT OF SECRETARY

Applications are invited for the appointment of Secretary to the University from 1st October, 1984 following the retirement of Mr T. B. Skinner.

Applicants must possess wide administrative experience at a senior level of responsibility preferably within a University although applicants with outside experience will also be considered; a good honours degree is a desirable qualification.

The salary will be within Grade IV of the national salary structure for university administrative staff.

Further particulars may be obtained from the Principal, University of Aberdeen, Regent Walk, Aberdeen AB9 1FX, with whom applications (eight copies) should be lodged by no later than 30th November, 1983.

(Overseas applicants may submit one application by post or cable.)

(13863)

UNIVERSITY OF THE WEST INDIES CAVE HILL CAMPUS – BARBADOS

Applications are invited for the following posts

Lecturer/ Assistant Lecturer in Law

In the Faculty of Law.

Applications are invited from persons with competence in any of the common law subjects, although preference may be given to persons whose area of speciality is Commercial Law. The successful applicant will be expected to assume duties by 1st September, 1984 or as soon as possible thereafter.

Assistant Lecturer/Lecturer In the Department of Mathematics (Computer Science)

Applications are invited from persons qualified to teach in areas of Computer Science and preferably with some teaching experience in such areas. The successful applicant will be expected to assume duty as soon as possible.

SALARY SCALES: LECTURER: BDS$31,644 x 1,368–39,852 (B) x 1,368–48,060 p.a. ASSISTANT LECTURER: BDS$26,112 x 1,272–28,656 p.a. Detailed applications (three copies) giving full particulars of qualifications and experience, date of birth, marital status and the names and addresses of three (3) referees should be sent as soon as possible to the CAMPUS SECRETARY, UNIVERSITY OF THE WEST INDIES, P.O. BOX 64, BRIDGETOWN, BARBADOS. The University will send further particulars for these posts to all applicants. These particulars may also be obtained from The Secretary General, Association of Commonwealth Universities (Appts) John Foster House, 36 Gordon Square, London WC1H 0PF (13936)

UNIVERSITY OF STRATHCLYDE

The Law School

CHAIR OF LAW

The University invites applications for a Chair of Law. Applicants should be able to provide academic leadership in an area of the Law School's work, other than that of Business Law.

Further particulars (quoting ref: 61/83) may be obtained from the Registrar, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ to whom applications should be returned by 12th December, 1983. (13907)

UWIST

University of Wales

CIVIL ENGINEERING AND BUILDING TECHNOLOGY

RESEARCH ASSISTANT

(fixed term – 2½ years)

to assist in a project sponsored by SERC to investigate the loss of prestress in post-tensioned brickwork.

Salary: Within Range 1B Research and Analogous Staff £6,310–£7,190 per annum

PREVIOUS APPLICANTS NEED NOT RE-APPLY

Requests (quoting Ref. B.9) for details and application forms to Staffing Office, UWIST, P.O. Box 68, Cardiff CF1 3XA.

Closing date: 25th November, 1983. (13908)

Southampton THE UNIVERSITY

SUB-DEPARTMENT OF ENGINEERING MATERIALS

Applications are invited for the post of:

LECTURER

In the Sub-Department of Engineering Materials. Candidates should have a background in Metallurgical or Production Engineering, Engineering Materials or a related subject and a research interest in deformation processing of materials.

Salary scale: £7,190 × £460 (approximately) to £14,125 per annum.

The initial salary will depend on qualifications and experience. Further particulars may be obtained from D. A. S. Copland, The University, Southampton, SO9 5NH, to whom applications (seven copies from United Kingdom applicants) should be sent not later than 30th November, 1983, quoting reference number 2040. (13909)

Universities continued

UNIVERSITY OF STRATHCLYDE

Department of Marketing

LECTURESHIP

Applications are invited for a Lectureship in the Department of Marketing. Industrial and/or commercial experience is desirable; preference will be given to candidates with an active interest in research.

Salary on the Lecturer Scale (£7,190–£14,125 pa). USS benefit.

Further particulars and application forms (quote ref: 64/83) are available from the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ.

Closing date for applications: 2nd December, 1983. (13912)

UNIVERSITY OF STRATHCLYDE

Department of Chemical and Process Engineering

LECTURESHIP

Applications are invited for a Lectureship in Biochemical Engineering in the Department of Chemical and Process Engineering. Candidates should be capable of teaching at undergraduate and postgraduate levels and of leading a research group in the biotechnology area of downstream processing.

Salary on the Lecturer Scale (£7,190–£14,125 pa). USS benefit.

Further particulars and application forms (quote ref: 63/83) are available from the Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ.

Closing date for applications; 25th November, 1983. (13913)

UNIVERSITY OF STRATHCLYDE

SENIOR FINANCE ASSISTANT

Applications are invited from accountants with at least five years' post-qualifying experience for the above post within the finance division. Knowledge of university accounting practices would be an advantage.

Salary on grade II for Administrative Staff (£11,160–£14,125 pa). USS benefit.

Further particulars and application forms (quote 67/83) are available from Academic Staff Office, University of Strathclyde, McCance Building, 16 Richmond Street, Glasgow G1 1XQ. Closing date for applications: 23 November 1983. (13628)

LOUGHBOROUGH UNIVERSITY OF TECHNOLOGY

Development Manager

Computer Centre

Applications are invited for the post of DEVELOPMENT MANAGER, responsible to the Director of the University's Computer Centre, who would investigate and co-ordinate the introduction of new applications and facilities within the Centre to extend the computing service to the University. Candidates should be graduates with wide experience of computing within an academic and/or industrial environment.

The Computer Centre provides a service to the University based on Honeywell Multics and multi-Prime systems with network access to a range of specialist computers elsewhere. There is also considerable involvement in local networks and microcomputers.

Salary within scale £13,515 to £16,925. Further details and application forms from Paul Johnson, Establishment Officer, ref. 83/31 CC.

Loughborough *Leicestershire* (13918)

University of Newcastle upon Tyne

The Medical School

LECTURER IN THE DEPARTMENT OF MICROBIOLOGY

Applications are invited from registered medical practitioners for a whole-time appointment of Lecturer in the Department of Microbiology which is tenable from 1st January 1984. The post is recognized for MRCPath training purposes and the applicant will be granted an appropriate honorary contract with the Newcastle Health Authority. Undergraduate courses in microbiology are conducted by the Department for medical, dental and science students. The successful candidate will be encouraged to engage in research for which there are good facilities. Candidates wishing to visit the Department should contact Professor M. Slinsman Tel. 0632 328511 Ext. 3708.

Commencing salary will be at an appropriate point on the Clinical Lecturers' scale £8,260–£15,040 per annum according to age, qualifications and experience.

Further particulars may be obtained from the Deputy Registrar (F.P.), The University, 6 Kensington Terrace, Newcastle upon Tyne, NE1 7RU with whom applications (three copies) together with the names and addresses of three referees should be lodged not later than 30th November, 1983. H1

University of Nottingham

DEPARTMENT OF INDUSTRIAL ECONOMICS, ACCOUNTING AND INSURANCE

Applications are invited for the Chair of Industrial Economics and Headship of this Department. The Chair is tenable from the earliest possible date and the salary will be within the Professorial range.

Application forms and further particulars, returnable no later than 30th November, 1983, may be obtained from the Staff Appointments Officer, University of Nottingham, University Park, Nottingham NG7 2RD. Ref. No. 902. (13915)

The University of Aston in Birmingham

Faculty of Engineering

COMPUTER OFFICER

Applications are invited from suitably qualified and experienced graduates with an interest in Engineering and a desire to work in an academic environment. As Computer Officer in the Faculty of Engineering, you would be expected to take a leading role in an extensive programme for developing existing work in the engineering applications of computing and encouraging new uses of computing in teaching and research. Central to these developments is a DEC VAX 11/750 computer system equipped with 19 DEC Professional microcomputers as terminals and 5 Tektronix colour terminals.

Salary — Other Related 1A — £7,190 to £11,615 per annum, together with generous fringe benefits, including re-location expenses and excellent sports and social facilities. For well qualified candidates it is expected the appointment will be made at the upper end of the scale.

Application form and further details available from Mr A. C. Rees, Personnel Officer, University of Aston in Birmingham, Gosta Green, Birmingham B4 7ET quoting reference no. [illegible] (telephone 021-359 3611 ext [illegible]). [illegible]

Heriot-Watt University

Experiential Learning Project

RESEARCH ASSOCIATE

The project is concerned with self-help groups of engineers who are to initiate their further training through a review of experiential learning, and the appointee will be required to work with Professor Cowan in reviewing the literature, designing and using workshop materials, supporting participants in furthering their own training and liaising with members of staff and with practising engineers to provide assistance and resources for that training, and in evaluating and monitoring the project. A small amount of travelling will be involved, both locally and within the central Scotland area.

In this relatively undeveloped area of training it would be quite impossible to find an applicant with all the experience, knowledge or background which might be desired. Primary qualities which are sought are therefore the capability for educational research and development, an ability to relate easily and effectively to mid-career engineers both individually and in workshop situations, and a willingness to tackle new and perhaps strange tasks in the course of this activity. Therefore it could well be appropriate to appoint either someone with a training in education or in educational research, or a graduate with an honours degree and some experience in education or training, and not necessarily an engineer. The appointee will be based in the civil engineering learning unit, where there is a small group of engineering teachers who have particular interest in the development of engineering education, and within which there is a good camaraderie and team spirit.

The appointment is for a period of one year and the salary paid will be in the range £6,310 — £7,630 per annum.

Please write (do not phone) for an application form to the Staff Officer, Heriot-Watt University, Chambers Street, Edinburgh EH1 1HS quoting Ref. No. 68/83. H1

The University College of Wales Aberystwyth

Department of Agriculture

DEMONSTRATOR IN AGRICULTURE

Applications are invited for the post of Demonstrator in the Department of Agriculture. Applicants should have a good Honours Degree in Agriculture, Animal Production or Animal Science together with appropriate postgraduate experience. The appointment will be made according to qualifications and experience within the Range £6,310–£8,530, and the successful candidate will be expected to commence duties on 9 January 1984 or as soon as possible thereafter.

Application forms and further particulars are available, from the Registrar, (Staffing Office), The University College of Wales, Old College, King Street, Aberystwyth, SY23 2AX (Tel 0970 3177 Ext 207). Closing date for applications: Monday, 28 November 1983. Previous applicants need not re-apply. H1

University of London The London School of Economics & Political Science

LECTURESHIP IN SOCIAL HISTORY

Applications are invited for appointment to a lectureship in Social History in the Department of Economic History from 1 January 1984 or a later date to be agreed.

Appointment will be on the salary scale for lecturers of £7,190 to £14,125 a year plus £1,186 a year London Allowance. In assessing the starting salary, consideration will be given to qualifications, age and experience.

Application forms and further particulars are available, on receipt of a stamped, addressed envelope, from the Administrative Officer, H610, The London School of Economics, Houghton Street, London WC2A 2AE.

Closing date for applications: 1 December 1983. H1

Polytechnics

CITY POLYTECHNIC OF HONG KONG

The Hong Kong government has appointed a Committee to plan the establishment of a second polytechnic in Hong Kong. To be named the City Polytechnic of Hong Kong, the institution will have an initial target of the equivalent of 8,000 full-time students by the early 1990's and a planned capacity for an ultimate population of 13,500. The Polytechnic expects to be able to enrol its first students in Autumn 1984.

It is intended that the study programmes should be developed on a modular structure with a strong vocational flavour. The majority of courses will be at professional and higher technician levels, and a substantial number will be day-release and evening courses. There will also be degree programmes although the number of students on such programmes will not exceed 30% of the total student population. Research is to be encouraged.

The Planning Committee has made appointments at Director, Associate Director and Head of Department levels. Some of them are already in post. Meanwhile applications are invited for the following posts:

Heads of the following Teaching Departments:

ELECTRONIC ENGINEERING (Ref. No: GP/ENG/001/83)
BUILDING AND SURVEYING (Ref. No: GP/BS/001/83)

It is intended that a modular course structure will be adopted by the City Polytechnic and that Departments will be grouped into Schools of Study. Heads of Department would be expected to develop courses in their respective Departments as part of the overall modular structure and also to function additionally as Chairman of their School of Study from time-to-time.

Salary and Qualifications for Appointment:

The salary is within a range but not less than HK$277,200 pa (note: £1 = HK$11.60; Sterling equivalent as at 25th October, 1983).

Candidates should have (a) a relevant academic/professional qualification at, at least first degree level; and (b) substantial administrative and teaching experience in a higher education institution preferably at principal lecturer level or equivalent; extensive professional/commercial/industrial/managerial experience at a senior level. Experience in the operation of modular course structures will be beneficial, as will possession of a higher degree.

Terms and Conditions of Service: The initial appointment will be made on fixed-term contract of four years, at the end of which a gratuity equal to 25% of salary earned over the whole contract period will be payable. Benefits include long leave; heavily subsidized housing; medical and dental benefits and where appropriate, children's education allowance and leave passages.

Applications: Application forms and job specifications are obtainable from the Association of Commonwealth Universities (Appts), John Foster House, 36 Gordon Square, London WC1R 0PF. Completed forms should reach the Secretary, Planning Committee, City Polytechnic of Hong Kong, PO Box 98441, Tsim Sha Tsui Post Office, Kowloon, Hong Kong, by 28th November, 1983 (please mark appropriate reference number on cover). One additional copy should also be lodged with the Association of Commonwealth Universities.

Interviews: Interviews of United Kingdom candidates on the shortlist are planned to take place in London in the second week of January 1984. The recommended candidates will be invited to attend final interview in Hong Kong around the third week of January. (13930)

Oxford Polytechnic

FACULTY OF EDUCATIONAL STUDIES L2/SL IN MICROCOMPUTING (Ref: ED4 PR)

The person appointed will be interested in developing microcomputing across the curriculum.

For further details and an application form please write to Mrs Judy Blakey, Oxford Polytechnic, Headington, Oxford, OX3 0BP. [illegible]

Thames Polytechnic

School of Electrical and Electronic Engineering

RESEARCH ASSISTANT

The School has a vacancy for a Research Assistant to work on speech recognition using microprocessors in collaboration with an industrial concern. Candidates should have an honours degree in Electronic Engineering, Physics or Computer Science and will be expected to register for a higher degree.

Salary scale: £5,934 — £6,435 inclusive.

Further particulars and application form from the Staffing Officer, Thames Polytechnic, Wellington Street, London [illegible] November 1983. [illegible]

Queen Margaret College

EDINBURGH

LECTURER 'A' IN OCCUPATIONAL THERAPY

Applications are invited for the above post from suitably qualified candidates holding a degree/teaching qualification and preferably with experience in the Psychiatric areas of Occupational Therapy. The person appointed will be expected to contribute to course planning and encouragement will be given to the pursuit of professional development and research.

Salary Scale: £8,313–£12,228 (Bar) – £13,125.

Application forms and further particulars may be obtained from the College Secretary, Queen Margaret College, Clerwood Terrace, Edinburgh EH12 8TS.

Closing date for applications: 30 November 1983. (13940)

POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA
DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

LECTURER GRADE I/II

(Ref.: E.13)

The Department of Electrical and Electronic Engineering wish to appoint a member of academic staff to assist in the provision of Engineering Applications (EAI) Courses in its new post Finniston Degree programme.

The successful candidate must be able to work as a member of a team engaged primarily in supervising and instructing students on the workshop orientated elements of EAI i.e. Mechanical and Electrical/Electronic Workshop Practice and the 'Design and Make' units.

Salary will be in the range: Lecturer, Grade I £6,636 (×15)–£10,722 p.a.; Lecturer, Grade II £8,202 (×1)–£12,555 p.a., both inclusive of London Allowance. Starting salary will be dependent on qualifications and experience.

Application form and further details may be obtained from the Staffing Office. Tel: 01-928 8989 Ext. 2355.

Closing date for receipt of completed application forms will be 25th November, 1983. (13933)

POLYTECHNIC OF THE SOUTH BANK
Borough Road, London SE1 0AA
DEPARTMENT OF PHYSICAL SCIENCES AND TECHNOLOGY

SENIOR LECTURER

(Ref.: P.10)

The Department seeks to appoint a Senior Lecturer with basic experience and qualifications in the physical sciences for work in the area of instrumentation and the scientific applications of computing. Experience of scientific computing at both mainframe and micro level is essential and some knowledge of computer interfacing would be desirable.

In addition to teaching on degree and related TEC courses the successful candidate would be expected to play a major role in developing research allied to instrumentation/scientific computing and to seek outside funding in support of research work.

Salary will be in the range: £11,870 (×6)–£14,430 per annum inclusive of London Allowance. Starting salary will be dependent on qualifications and experience.

Further particulars and application form available from the Staffing Office. Tel: 01-928 8989 Ext. 2355.

Closing date for receipt of completed application forms will be 25th November, 1983. (13934)

Middlesex Polytechnic

Faculty of Art and Design

PART-TIME TEMPORARY LECTURERS IN HISTORY OF ART AND DESIGN

Suitably qualified staff are required to teach History of Art and Design on a part-time basis, particularly History of Architecture, Product Design, Textiles/Fashion, and the general history of art with emphasis on the 19th and 20th centuries.

Please send a c.v. quoting ref. A356A together with an outline of teaching interests and approximate availability to: The Dean, Faculty of Art and Design, Middlesex Polytechnic, Cat Hill, Barnet, Herts EN4 8HT. H5

Manchester Polytechnic

Department of Applied Community Studies

LECTURER II IN NURSING STUDIES

The principal teaching duties will relate to the BSc Nursing, 4 year part-time course, but the successful applicant will also be expected to participate in the teaching of the broad range of nursing courses offered in the Section.

Candidates will be expected to have relevant qualifications such as a degree in Nursing, SRN, RNT or similar.

Teaching experience at post-basic level, especially in Further/Higher Education, would be a distinct advantage as also would the possession of a higher degree and/or research experience.

Salary Scale: £7,218–£11,568 (with possible subsequent promotion to Senior Lecturer Scale).

For further particulars and application form (returnable by 18 November 1983) send a self addressed envelope marked "CS/364" to the Secretary, Manchester Polytechnic, All Saints Building, Manchester M15 6BH. H5

Oxford Polytechnic

FACULTY OF EDUCATIONAL STUDIES L2/SL IN MICROCOMPUTING (Ref: ED4 PR)

The person appointed will be interested in developing microcomputing across the curriculum.

L2/SL IN SOCIAL PSYCHOLOGY IN EDUCATION (Ref: ED7 PR)

For further details and application forms please write to: Mrs. Judy Blakey, Oxford Polytechnic, Headington, Oxford, OX3 0BP. [illegible] Closing date: [illegible] November [illegible] H5

Adult Education

3 MATURE experienced part-time tutors to teach adult literacy/numeracy/work computing/work trade skills at £8.[illegible] 10½ hrs p.w. approx. Send c.v. & s.a.e. to [illegible] Centaur Project, Margery [illegible] Spring House, [illegible] Street, London WC1 H1

Fellowships

SOCIAL SCIENCE RESEARCH COUNCIL

POSTDOCTORAL RESEARCH FELLOWSHIPS

The Social Science Research Council invites applications for a limited number of Fellowships from social scientists who have obtained a doctorate since 1st January, 1981 or have formally submitted a Doctoral Thesis before 30th September, 1983. The duration of the Fellowships will be three years commencing 1st November, 1984, for a value of £7,190–£9,425 pa plus limited support costs where appropriate.

Applications must be submitted through a UK university, polytechnic, college or other research institution. Applicants must have been ordinarily resident in the United Kingdom for three years preceding the date of application. A Fellowship cannot be held on secondment.

The closing date for applications is 6th January, 1984. Application forms and further details may be obtained by writing to:

Postdoctoral Research Fellowship Scheme, SSRC, 1 Temple Avenue, London EC4Y 0BD

(13904)

The University of Aston Birmingham

Department of Modern Languages

RESEARCH FELLOW IN COMPUTATIONAL LEXICOGRAPHY

Applications are invited for a Research Fellow to work, under the direction of Professor F. Knowles, on the design and implementation of a computerised dictionary containing specialised vocabulary relating to computer science and to information science and technology. This dictionary is intended to be a monolingual (in this case, English) defining dictionary but it will also include lexical equivalences in German. The dictionary system is intended to demonstrate the greater effectiveness and efficiency of computerised visual look-up as against turning pages in a traditional hand-held dictionary. To this end the implementation must rely on the sophisticated use of relation database techniques.

Applications are invited for this SERC sponsored post from, preferably, graduate computer scientists with experience of or a strong interest in natural language processing. This Research Fellowship is available now and is scheduled to continue for two years in the first instance. The salary offered is £7,630 per annum.

Prospective candidates are welcome to contact Professor F. Knowles by telephone (021 359 3611 Ext 4212) if they wish to inform themselves more fully before applying.

Application forms may be obtained from the Staff Officer (quoting Ref: 577/156), University of Aston in Birmingham, Gosta Green, Birmingham B4 7ET. (Tel: 021 359 3611 Ext 4564). Closing date for the receipt of applications is 25 November 1983. H2

University of Oxford Magdalen College

FELLOWSHIP IN MODERN HISTORY

The College proposes to elect, with effect from 1st October 1984, a Fellow and Tutor (male or female) in General and British History between 1500 and 1800. Preference may be given to candidates with predominantly European interests. The successful candidate will be eligible for appointment to a University Lecturership (CUF). Completed applications, with the names of three referees, should be submitted by 10th December 1983. Application forms and further information can be obtained from the President, Magdalen College, Oxford OX1 4AU. H2

University of Oxford St. Hilda's College

JUNIOR RESEARCH FELLOWSHIPS

The College invites applications from women graduates for the following (from 1 October 1984):

1) K.M.T. Atkinson Junior Research Fellowship, for studies of the history, law, antiquities and religions of the Ancient World, Classical or otherwise, including early Christianity. (For two years, renewable for a third).

2) Randall-MacIver Junior Research Fellowship, for studies into fine art, music or literature of any nation in any period. (For one year, renewable for a second).

Further details should be obtained from the College Secretary, to whom completed applications (8) should be returned by 6 January 1984. B2

Research & Studentships

ABERYSTWYTH
The University College of Wales

TWO POSTDOCTORAL RESEARCH POSITIONS

Funded by the SERC Biotechnology Directorate both posts are concerned with studies of biotransformations by species of Clostridium.

Microbial Geneticist: To study systems of genetic exchange in Clostridium and expression of Clostridial genes in other bacterial hosts.

Microbial Physiologist: To study the fluctuational behaviour of batch and continuous cultures using the techniques of spectrum analysis. Applications from persons with a background in the physical sciences will be considered alongside those from persons trained in microbial bio-chemistry. An enthusiasm for interdisciplinary approaches to scientific problems is desirable.

The appointees will join an established research group studying fermentation processes in anaerobic bacteria (Professor J. G. Morris, Department of Botany and Microbiology). Informal enquiries may be made of Dr M. Young (Genetics) and Dr D. B. Kell (Physiology) by telephoning 0970 3111, extensions 8059 and 3055 respectively.

Appointments (starting 9th January, 1984) will be for three years on the salary scale £7,190 to £11,615 per annum. Application forms and further particulars can be obtained from the Registrar (Staffing Office), The University College of Wales, Old College, King Street, Aberystwyth, SY23 2AX. (Tel: 0970 3177, Ext. 207). Closing date for applications, Thursday, 1st December, 1983. (13927)

WEST BERKSHIRE HEALTH AUTHORITY

Department of Community Medicine

INFORMATION & RESEARCH OFFICER

£7,404–£9,025 p.a.

The responsibilities of this post will include assisting in the development of information systems contributing to the planning process and working with other members of the Department of Community Medicine in the study of health service problems. Applicants should be experienced in statistical and research techniques. A suitably qualified post holder will normally be granted honorary membership of the academic staff of the University of Reading in the Department of Applied Statistics and will undertake certain teaching responsibilities.

Informal enquiries welcome to Dr P. Dixon, District Medical Officer: tel. Reading (0734) 875111 Ext. 239. Application form and job description from [illegible] Unit, Great Western House, Station Road, Reading RG1 1LU. [illegible] Ext. 276. Closing date: 18th November, 1983. [illegible]

UNIVERSITY OF WALES
LAMPETER
SAINT DAVID'S UNIVERSITY COLLEGE

TWO 2-YEAR POSTGRADUATE STUDENTSHIPS FOR RESEARCH ON A TOPIC RELATED TO WALES

Applications are invited from graduates of an approved university for the two 2-year Postgraduate Studentships, within the following fields.

Archaeology
Church History
Classics, including Latin & Greek
Computing
Economics
Environmental Studies
English
French
Geography
German
History
Philosophy
Political & Economic Studies
Religion & Ethics
Religious Studies
Social Policy
Theology
Victorian Studies
Welsh

These will be made available for research on a topic related to Wales for the session 1984–85. The studentships are tenable at Saint David's University College, Lampeter, and successful candidates will be required to register for a Higher Degree of the University of Wales.

The Studentship will provide an annual maintenance grant based on the current rate payable by the D.E.S. for the award holder. The Studentship will also cover approved fees and approved travel within the UK.

Application forms and further particulars are available from the Admissions Officer, Saint David's University College, Lampeter, Dyfed, Wales SA48 7ED. Please specify the field in which you intend to pursue research. The Studentship will commence in January, 1984.

The closing date for the receipt of application forms will be 21st November, 1983. (13926)

The Nuffield Foundation

Inquiry into Modern Languages in Further and Higher Education

RESEARCH ASSISTANT

Applications are invited for the post of Research Assistant to an inquiry into the teaching of modern languages in Further and Higher Education to be directed by Miss Sheila Browne, Principal of Newnham College, Cambridge. Applicants should have experience of social or educational research, and advanced competence in at least one modern language. Familiarity with the educational system would be an advantage. The inquiry will be based in Cambridge.

The appointment is for two years from 1st January 1984, with a salary in Range 1A (£7,190–£11,615), according to age, qualifications and experience.

Further details may be obtained from the Director of the Nuffield Foundation, Nuffield Lodge, Regent's Park, London NW1 4RS, to whom applications (2 copies), including the names and addresses of two referees, should be sent not later than 1st December. H11

University of Kent Canterbury

Personal Social Services Research Unit
Domiciliary Care for the Elderly

RESEARCH FELLOW

Applications are invited for a post of Research Fellow within the Personal Social Services Research Unit with effect from 1st January 1984 or as soon as possible thereafter until the 30th September 1987.

The Domiciliary Care for the Elderly project is examining and comparing the strategic choices involved in providing personal social services to elderly people living in different communities.

Applicants should preferably have previous research experience with Local Authorities or Health Areas.

Salary according to qualifications and experience will be on the scale £7,190 — £11,615 per annum or £10,710 — £14,125 per annum.

Application forms and further particulars may be obtained from Mr J. E. Reilly, Secretary of Faculties, The Registry, The University, Canterbury, Kent. Completed application forms (3 copies) should be returned not later than Monday, 28th November 1983. Please quote reference number A57/83/THES. H11

Colleges with Teacher Education

STRANMILLIS COLLEGE BELFAST

Appointment of Principal

Applications are invited from men and women with appropriate qualifications and experience for appointment as Principal from 1st September, 1984.

Stranmillis College is funded by direct grant from the Department of Education for Northern Ireland and its affairs are conducted by a Board of Governors representative of educational interests and appointed by the Department of Education.

The College is concerned solely with initial training and in-service courses for teachers. It is recognised by The Queen's University of Belfast for approved degree and certificate courses in the Faculty of Education.

The College occupies a pleasant parkland site of some 45 acres in a residential area to the South of the City. On the site there is a Principal's residence for which appropriate residential emoluments are provided, the greater part of which is superannuable.

The salary will be within Group 6 range – currently £20,862–£21,864 per annum.

Further information about the College and the appointment, together with a form of application, may be obtained from The Secretary, Board of Governors, Stranmillis College, Belfast BT9 5DY.

The closing date for receipt of applications by the Secretary is Saturday, 26th November, 1983. (13903)

Colleges of Higher Education

SOUTH GLAMORGAN COUNTY COUNCIL
SOUTH GLAMORGAN INSITUTE OF HIGHER EDUCATION (CARDIFF)
FACULTY OF ART & DESIGN
Department of History and Theory of Art & Design

SENIOR LECTURER

Applications are invited for the post of Senior Lecturer (Psychologist) in the Department of History and Theory of Art and Design.

The Department is looking for candidates with a wide-ranging interest in the psychology of the visual arts and, additionally, a capacity to make contributions to certain of the following aspects of the discipline:– Environmental Psychology, Man-Machine Studies and Visual Communications.

The person appointed will be expected to teach on all the degree courses offered by the Faculty.

Salary Scale; £10,683–£13,443.

Further particulars and application forms may be obtained from The Personnel Officer, South Glamorgan Institute of Higher Education, Cyncoed Centre, Cyncoed Road, Cardiff CF2 6XD. Completed application forms should be returned within fourteen days of the publication of this advertisement. Post No. SL/85. [illegible]

Administration

Department of Education and Science

HM Inspector of Schools

Further and Higher Education

Applications are invited from men and women, preferably aged between 35 and 45, for appointment as HM Inspectors with a specialist interest in computer education and in general further education. HMI inspect educational institutions as part of both general and specialist assignments and provide educational advice to the Department and throughout the education system.

Applications are invited for:

Computer Education
From those holding senior positions in further and higher education who have a broad and active interest in computer education. A particular interest and experience in an area of computer application, eg information technology, or in the field of mathematical sciences, would be an advantage.

General FE
From those occupying senior positions in further education who have experience of the development, operation, or management of non-advanced courses. Similar experience in respect of advanced part-time courses in further education would be an additional advantage. Applicants should be able to contribute to one of the major specialist areas of further education, such as agriculture, art and design, business and management studies, construction, engineering, food and catering, science, mathematics and computing, and health and social services.

Starting salary is within the range £14,400–£20,800 (higher in London). Relocation expenses of up to £3,000 may be payable. Application forms (to be returned as soon as possible and not later than 22nd November, 1983) and further information may be obtained from Mr E. D. Foster, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, extensions 2786 or 2237. Please quote 11/83/1. (13924)

CITY OF SHEFFIELD

EDUCATION MEDIA OFFICER

£15,027–£16,281 (Soulbury HT Group 9)

Applications are invited from men and women with substantial and varied teaching experience to fill this important post in the Authority's Advisory Team.

Knowledge and experience of current developments in education media and the present and potential applications of information technology to education are essential requirements.

The successful candidate will be head of the Education Media Centre and be responsible to the Chief Adviser for supporting schools and colleges in the development, organisation and use of education media for effective approaches to learning.

Application forms, and further particulars from the Chief Education Officer, (Ref. ST/P/CW), City of Sheffield MDC Education Department, PO Box 67, Leopold Street, Sheffield S1 1RJ. Closing date 18th November.

It is the policy of the Sheffield City Council to provide equal employment opportunities and consideration will be given to all suitably experienced and qualified applicants regardless of handicap, sex or race. (13916)

FURTHER EDUCATION STAFF COLLEGE
COOMBE LODGE, BLAGDON, BRISTOL BS18 6RG

Owing to the retirement of the Director the Governing Body invite applications for the post of

DIRECTOR

to take effect from 1st September, 1984.

The purpose of the Staff College is to improve the effectiveness and management of colleges of Further and Higher Education. It serves Local Authorities and colleges throughout the U.K.

The Director is responsible for the leadership and development of the Staff College's activities.

Salary: Negotiable within the range £25,000/£27,500.

Further particulars from The Registrar and Clerk to the Governors.

Closing date for applications: Friday, 2nd December, 1983. (13923)

Department of Education and Science

HM Inspectors of Schools

Applications are invited from men and women, preferably aged between 35 and 45, for appointment as HM Inspectors with a particular interest in the *training of teachers for the primary phase of education*. HMI inspect educational institutions as part of both specialist and general assignments and provide advice to the Department and throughout the education system.

Applicants should have substantial, recent experience of initial training of teachers for primary or middle schools. Experience may be confined to such work in higher education. In addition, knowledge of course design and the management of institutions, involvement in in-service training, and recent teaching in schools would each be additional recommendations.

Starting salary is within the range £14,400–£20,800 (higher in London). Relocation expenses of up to £3,000 may be payable. Application forms (to be returned as soon as possible and not later than 22nd November, 1983) and further information may be obtained from Mr E. D. Foster, Department of Education and Science, Room 16/17, Elizabeth House, 39 York Road, London SE1 7PH, telephone 01-928 9222, extensions 2786 or 2237. Please quote 12/83/1. (13925)

Overseas

NGEE ANN POLYTECHNIC
Republic of Singapore

Invites applications from suitably qualified persons for appointment as LECTURING STAFF in the following Departments/Centres:

a) Building
b) Electrical and Electronic Engineering
c) Mechanical Engineering
d) Shipbuilding and Repair Technology
e) Mathematics and Science

The Institution

Ngee Ann Polytechnic is a premier Government Polytechnic offering diploma courses equivalent to HND standard. The Polytechnic has a student enrolment of 4,900 and a full-time academic staff strength of 308 in the current academic year. The student population is expected to increase to 9,000 by 1986 with a proportionate increase in staff strength. The current annual operating budget of $16.5m is expected to be increased to $70m. The medium of instruction is English.

Qualifications

Candidates must have a good and recognised University Degree and/or professional qualifications in a relevant field and have at least two years relevant industrial/teaching experience. However, preference will be given to candidates with experience/expertise in the following areas:

a) Building:

Electrical Engineering, Building Services and Environmental Engineering.

b) Electrical and Electronic Engineering:

(1) Power and Industrial Electronics
(2) Telecommunication (Digital Communication and Microwave Technology)
(3) Computer Control and Instrumentation
(4) Robotics and Automation
(5) Computer/Microprocessor Technology and Application
(6) Electronic Measurement

c) Mechanical Engineering:

(1) Computerised Machining
(2) Robotics
(3) CAD/CAM
(4) Instrumentation and Control
(5) Refrigeration and Air-conditioning
(6) Computer Application
(7) Engineering System Design

d) Shipbuilding and Repair Technology:

Towing Tanks, Offshore Engineering, Shipbuilding/Ship Design and Marine Electro-technology.

e) Mathematics and Science:

Professional computer experience together with experience in teaching and research in Computer Science.

Gross Annual Emoluments

Gross Annual Emoluments range from S$27,113–S$94,828. (The present rate of exchange is £1 = S$3.23). The above figures include a current 13-month allowance and a 22% employer's contribution to the Singapore Central Provident Fund.

The levels of appointment and points of entry into the above salary range will be dependent upon qualifications and experience. Applicants need only apply for a Lecturing Appointment, giving details of qualifications and experience, and the Polytechnic will decide on final offer after interview.

Terms and Conditions of Service

Singaporeans and Malaysians will be offered appointments on local terms. Other successful candidates will be appointed on contract of three years' duration. Successful applicants will also be eligible for medical/dental benefits, membership of Central Provident Fund, free air passages for employee, wife and children, children's education allowance, housing allowance, commuted board and lodging allowance, baggage allowance, etc. Applicants will be supplied with details of terms and conditions of service if they are shortlisted for interview.

Applications

For application forms, please write to the address shown below enclosing a stamped self-addressed envelope or call personally to the:

Singapore High Commission, 5 Chesham Street, London SW1, United Kingdom.

Applications close 10 days after the appearance of this advertisement.

(13914)

CLASSIFIED ADVERTISEMENTS

To advertise in the
T.H.E.S.
Please phone Jane McFarlane on 01-253 3000

The Times Higher Education Supplement
Priory House, St John's Lane, London EC1M 4BX

TUTOR
Environmental Studies
VANUATU TEACHERS' COLLEGE VANUATU

The Government of Vanuatu require a Tutor in Environmental Studies for Vanuatu Teachers' College, Port Vila.

Duties: In addition to teaching the officer would be required to undertake supervision of teaching practices and school observations. Extra curricula and normal Boarding Institution duties would be expected.

Qualifications: Applicants, preferably aged 30-55 years should be British citizens and have a degree in the area of social studies with some environmental science including human geography plus teaching experience in a Teacher Training College or Teachers' Centre. A further qualification or evidence of further study and knowledge of French are desirable. Experience of working in a developing country is important and will be a particular advantage.

Appointment: 22 months.

Salary in range £10,283-£14,254 pa including an allowance normally tax-free in the range £6,240-£8,754 pa. Terminal gratuity of 25% of basic salary is payable. Other benefits include free family passages, children's education allowances and subsidised accommodation. An appointment grant of up to £300 and an interest free loan of up to £2,700 may be payable in certain circumstances. Superannuation rights may be safeguarded.

For full details and an application form please apply ***(Previous applicants need not re-apply)*** quoting Ref., AH 372/J/K stating post concerned and giving details of age, qualifications and experience to:

Appointments Officer,
Overseas Development Administration,
Room AH 351,
Abercrombie House,
Eaglesham Road,
EAST KILBRIDE,
Glasgow G75 8EA.

ODA

OVERSEAS DEVELOPMENT

BRITAIN HELPING NATIONS TO HELP THEMSELVES

The American University in Cairo

Applications are invited for the following positions:

EUROPEAN AND BRITISH HISTORY – One vacancy (rank open). Teach modern European imperialism, western civilization/world history, British history, and in interdisciplinary Freshman tutorial.

ECONOMICS – Three vacancies (rank open). Teach undergraduate courses in money and banking, labor economics, history of economic thought, economic history, comparative economic systems; and graduate courses in economics of human resources, economic planning, and advanced macroeconomic theory, according to specialities.

POLITICAL SCIENCE – Two Assistant or Associate Professors to teach introductory government, comparative political systems, contemporary foreign policy, development politics, Middle East and African politics, and undergraduate and graduate special topics and seminars.

PHYSCHOLOGY – Clinical psychologist with special interest in child development, psychological assessment of children, and cross-cultural studies of socialization and child-rearing. Candidates should hold Ph.D. from APA-approved clinical psychology program, Preference shown for cross-cultural experience and awareness of Arab culture. Courses to be taught include introductory psychology, abnormal psychology, theories of personality, child development, and assessment techniques.

MANAGEMENT AND BUSINESS ADMINISTRATION – Three vacancies (rank open) to teach 1) graduate courses in marketing management and undergraduate and graduate courses in international business; 2) graduate courses in management functions, development administration, developmental planning, and local government and development; 3) graduate and undergraduate courses in production and operations management, and organization of information processing systems.

COMPUTER SCIENCE – Two vacancies (rank open) to implement a new major in computer science and to teach undergraduate courses in computer programming, programming languages, data structures, systems programming, systems simulation, information organization and retrieval, software design, organization of computer components, operations research, and statistics.

ENGINEERING – Four vacancies (rank open) for 1) mechanical engineer with competence in mechanical design and mechanical systems, including an emphasis on computer-aided design; 2) mechanical engineer with competence in fluid mechanics, thermodynamics, heat transfer, experimental methods, and energy conversion systems; 3) materials engineer with competence in engineering materials, structure and properties, testing and inspection, mechanics of materials, physical metallurgy, and corrosion engineering; 4) industrial engineer with competence in quality control, operations research, and production management and control.

APPLIED LINGUISTICS – One vacancy (rank open). Teach graduate courses and supervise M.A. thesis research in applied linguistics. Specific areas of competence required are: testing and evaluation in language learning; language acquisition; research methods, and structure of English. For associate and full professors, preference will be given to candidates with administrative experience.

ALL OPENINGS require Ph.D. degree. English is language of instruction. Rank and salary are based on qualifications scale. Two-year appointments begin September 1984, with renewal possible. Write, with curriculum vitae, to: DEAN OF THE FACULTY, THE AMERICAN UNIVERSITY IN CAIRO, 866 UNITED NATIONS PLAZA, NEW YORK, NY 10017, USA.

UNIVERSITY OF NATAL
DURBAN, SOUTH AFRICA
DEPARTMENT OF MECHANICAL ENGINEERING

Applications are invited from suitably qualified persons regardless of sex, religion, race, colour or national origin for appointment to the post of

SENIOR LECTURER IN MECHANICAL ENGINEERING

Preference will be given to candidates who have a background in dynamic systems and control and demonstrated interest in conducting research. Opportunity exists for the development of activities in computer applications to design, manufacturing and other fields. Duties will include teaching undergraduate courses and supervising graduate research. Industrial experience is desirable. Candidates with a Ph.D in Engineering will be preferred.

Salary in the range:
R16 557–R24 045 per annum

The commencing salary notch will be dependent on the qualifications and/or experience of the successful applicant. In addition, a service bonus of 93% of one month's salary is payable annually.

Application forms, further particulars of the post and information on pension, medical aid, group insurance, staff bursary, housing loan and subsidy schemes, long leave conditions and travelling expenses on first appointment are obtainable from the Secretary, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE or the Registrar, University of Natal, King George V Avenue, Durban South Africa, 4001, with whom applications, on the prescribed form, must be lodged not later than 31st January, 1984 quoting the reference D119/83. (13905)

SIMON FRASER UNIVERSITY. Subject to budgetary authorization, tenure-track Assistant Professor of Sociology. Starting date September 1, 1984. Population Studies/Quantitative Methods; expertise in Gerontology and Canadian Social Issues an advantage. Undergraduate and graduate teaching plus commitment to scholarly research. Applications, including vitae and names of three referees, to be sent by January 30, 1984 to: Chair, Appointments Committee, Sociology & Anthropology Department, Simon Fraser University, Burnaby, British Columbia, V5A 1S6, Canada. In accordance with Canadian immigration requirements, this advertisement is directed to Canadian citizens and permanent residents of Canada. H13

Overseas continued

THE BRITISH COUNCIL

Posts overseas
Kuwait

Post 1 8 English Language Instructors
Post 2 5 Lecturers in the following subjects:

Linguistics
Applied Linguistics
Modern Poetry
Drama (esp Shakespeare)
Criticism

Department of English, Faculty of Arts
Kuwait University, Kuwait

Duties: Post 1 – to teach English to students in the Department of English in preparation for their courses in English, General Linguistics and English Literature; appointees with first degrees in English may be required to teach some basic English Literature as well. Post 2 – to lecture in one of the above specialities and to participate in other duties as assigned by the department, including staff seminars and meetings.

Qualifications: candidates, male or female, should be native speakers of English. In addition: Post 1 – candidates should have an MA in TEFL/TESL or Applied Linguistics and 3 years' relevant teaching experience. Experience of teaching intensive English courses would be an advantage. Post 2 – candidates must have a PhD and at least 2 years' teaching experience in a University or Polytechnic after gaining their PhD. Previous experience in an English Department of an overseas university and knowledge of a European language would be an advantage.

Salary: Post 1: KD 5205 per annum inclusive of professional allowance (£11,910 per annum @ £1 = KD 0.437) tax free. Post 2: on a scale at KD 3160–KD 10080 per annum (£16,679–£23,066 per annum @ £1 = KD 0.437).

Benefits: free furnished accommodation; terminal gratuity; free medical services; annual passage-paid leave for postholder; spouse and up to 3 dependant children under the age of 20.

Contract: Local contracts guaranteed by the British Council, one year from beginning February 1984, thereafter a 6 month extension followed by annual renewal.

Closing date for applications: 18th November, 1983.
Reference: Post 1: 83 A 193–200TH
Post 2: 83 A 154–158TH

For further details and an application form, please write, quoting the post reference number to: Overseas Educational Appointments Department, The British Council, 90-91 Tottenham Court Road, London W1P 0DT.

University of the Witwatersrand, Johannesburg
Faculty of Arts
School of Dramatic Art

CHAIR OF DRAMATIC ART

Applications are invited from suitably qualified persons regardless of sex, race, colour or national origin for appointment to the Chair of Dramatic Art which the University wishes to fill as soon as possible. Normally the incumbent of the Chair will be required to participate in the administration of the School of Dramatic Art, possibly within a system of rotating headship. Applicants should be fully qualified in the history and theory of Dramatic Art and able to supervise research towards higher degrees in Dramatic Art. The University would also be prepared to consider an exceptional applicant whose talents and experience are primarily professional.

Salary will be within the range R25 109 – R30 355 (under review) per annum, the initial salary to be determined according to qualifications and experience.

Benefits include an annual bonus, medical aid and pension fund membership and, if eligible, a housing subsidy and settling-in allowance.

Intending applicants should obtain the information sheet relating to this post from the Secretary, South African Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, England, or from the Registrar (Planning and Staffing), University of the Witwatersrand, 1 Jan Smuts Avenue, Johannesburg 2001, South Africa, with whom applications should be lodged not later than 31 January, 1984. [illegible]

Swinburne
75 Years of Distinction

Australia
Swinburne Institute of Technology

Department of Mathematics

Senior Lecturer
Operations Research

The Department of Mathematics invites applications from suitably qualified graduates with relevant industrial experience to apply for the above position.

Important factors in this appointment will be proven expertise in Operations Research, experience in teaching at the tertiary level, ability to liaise with industry, particularly in relation to the department's work experience program, Applied Research/Consultancy and the development of short courses for industry.

Salary: Senior Lecturer II $A30,095–$A32,226;
Senior Lecturer $A32,936–$A35,007.

Closing date: 18th November, 1983. A schedule of duties is available from the Staff Office, phone Melbourne 819-8827, or write to the address below.

Further information may be obtained from Mr Bob Kavanagh, Head, Department of Mathematics, Telephone Melbourne 819-8283.

Applications, in duplicate, including the names and addresses of three referees, should be sent to:

The Staff Officer,
Swinburne,
PO Box 218,
Hawthorn, Vic, 3122
Australia.

(13926)

A division of Swinburne Ltd
Incorporated in Victoria

AUSTRALIA
Royal Melbourne Insititute of Technology Limited

DEPARTMENT OF HUMANITIES
LECTURER IN COMMUNICATION/ MEDIA STUDIES

Ref. No. 141/40/AN

A lecturer is required to teach subjects relating to cultural dimensions of Communication/Media Studies, e.g. Introduction to Communication Theory, Media History, Media and Society, Behavioural and Cultural Influences of Media, the new Technologies of Communication, Visual Communications and Professional Skills and also contribute to subject in RMIT's interdisciplinary programme.

Applicants should possess appropriate academic qualifications and professional experience together with a dedication to teaching and a continuing interest in research.

LECTURERS
(2 positions)

Ref. No. 141/06/AN

The Department of Humanities is committed to educating professionals who can respond to the challenge of the meta-industrial society.

The appointee will be expected to provide academic expertise in historical and/or philosophical perspectives on contemporary concerns and theories relating to science, technology and/or communication. The emphasis will include social, ethical and epistemological implications and cultural contexts of developments in these areas. The lecturers will be required to contribute to the faculty's interdisciplinary programmes and may also teach other history and philosophy subjects.

Applicants should possess an honours or higher degree, preferably a doctorate, together with a dedication to teaching excellence and a continuing interest in research.

The positions will be offered on a three year limited term basis with the possibility of re-appointment.

Salary within the range – $A22,430-$A29,467 per annum.

Applications quoting appropriate Ref. No. to the Staff Officer, RMIT, GPO Box 2476V, Melbourne, 3001, Victoria, Australia by 16th December, 1983.

(13908)

CAPRICORNIA INSTITUTE OF ADVANCED EDUCATION
Rockhampton, Queensland, Australia
SCHOOL OF BUSINESS

LECTURER IN BUSINESS COMPUTING

Applicants for this position should have an interest in either Database Management Systems or Systems Analysis and Design. It is desirable that the applicants have a higher degree and appropriate industrial, governmental or lecturing experience.

The Capricornia Institute of Advanced Education has five schools – Business, Education, Engineering, Humanities and Social Science, and Science. These schools offer bachelors degrees and a number of diplomas. Rockhampton, situated on the Tropic of Capricorn is a coastal City with population of 55,000 with easy access to the boating and fishing facilities of scenic coastal resorts. Extensive capital investment and development is occurring in the region. The School of Business has over 1,000 students in its Graduate Diploma in Management, Bachelor of Business Degree and Associate Diploma in Business courses.

Appointment will normally be made on the basis of a three year contract, normal expenses of appointment apply. On successful completion of the contract, a further contract or a tenured appointment may be available.

Salary range;		
	Lecturer	A$19,333 to 29,467 pa
	Tutor	A$15,943 to 18,770 pa

For further information, contact the Agent General for Queensland, Queensland House, 392–393 Strand, London WC2R 0LZ.

Applications including full personal particulars, a resume of qualifications and experience together with the names and addresses of three referees should be forwarded to the Agent General for Queensland, Queensland House, 392–393 Strand, London WC2R 0LZ, by 25th November 1983. (13943)

UNIVERSITY OF CAPE TOWN

Assistant Lecturer in Sociology

Applications are invited for the above post vacant from 1 January 1984. Appointment will be made according to qualifications and experience on the salary scale: R9 696 x 621–10 317 x 780–R14 217 per annum. In addition a service bonus of approximately one month's salary is payable annually. (The University is expecting a general salary revision with effect from 1 January 1984. Information is presently awaited from the Department of National Education.)

Applicants should have at least a Master's degree, or its equivalent, in Sociology. All suitably qualified candidates will receive serious consideration; however, ability to offer courses in Introductory Sociology, Economic Sociology, or Women in the Economy will be an advantage as will research experience.

The University offers excellent staff benefits including 75% remission of tuition fees for dependants at UCT, generous study leave privileges, a housing subsidy scheme subject to State regulations, pension fund, medical aid and group life assurance.

Applicants should submit a curriculum vitae, stating present salary, research interests and publications, when available if appointed, and the names and addresses of three referees whom the University may approach.

Further information should be obtained either from the Secretary, SA Universities Office, Chichester House, 278 High Holborn, London WC1V 7HE, or from the Registrar (Attention: Appointments Office), Department E/3108, University of Cape Town, Private Bag, Rondebosch, 7700, South Africa, by whom applications should be received not later than 31 December 1983.

The University's policy is not to discriminate on the grounds of sex, race or religion. Further information on the implementation of this policy is obtainable on request.

Administration cont

The City University

ADMINISTRATIVE ASSISTANT IN THE REGISTRY

Applications are invited for the above post from graduates or those with a suitable professional qualification. The Registry is responsible for aspects of admissions, student records, central administration of examinations, and provision of related statistical information. Experience in administration preferably within a university or polytechnic, is necessary and preference may be given to those with experience of computer based systems. Numeracy and an ability to deal effectively with students and staff are also required.

Appointment will be within the range £7,496 to £11,061 inclusive of London Allowance or exceptionally £7,496 to £12,801 p.a. inclusive, of the Senior Administrative Scales.

Application forms and further particulars may be obtained from the Academic Registrar's Office, The City University, Northampton Square, London, EC1V 0HB. Telephone 01-253 4399, Ext. 3035.

Closing date 18th November, 1983. Please quote reference AR/2917 THES

Colleges of Further Education

Inner London Education Authority
Garnett College
Downshire House
Roehampton Lane
London SW15 4HR
01-789 6533

HEAD OF THE FACULTY OF COMMERCIAL AND INDUSTRIAL ARTS

(Head of Department Grade IV)

Applications are invited for appointment to the above post. The faculty is responsible for students following Certificate in Education courses specialising in fashion and crafts subjects, food studies, secretarial and office studies and in visual communications.

Applicants should be well qualified in one or more of these fields and have good teaching experience in Further Education. College of Education experience, teacher training or personnel training would be an advantage. Powers of leadership and administrative skills are of particular importance.

TEAM LEADER (YTS) for the Accredited Training Centre at Garnet College. The function of the centre is to provide training for all staff, managing agents, providers, college staff and others, who are concerned with the Youth Training Scheme. The Team Leader will assist the Staff Training Co-ordinator in the administration of the centre and contribute to the work of the centre by tutoring training events.

Applicants should have a good teaching/training background and have recent experience of vocational preparation, youth training or adult training/education.

The post at Senior Lecturer level, with an allowance in respect of 10 weeks' work per year in addition to the standard hours of duty, will be on a fixed term contract ending on 30 April 1984 in the first instance, with the possibility of a further appointment beyond that date if the MSC contract is renewed.

LECTURER GRADE II in Education (Biology Special Method)

Applicants should have good academic qualifications and be qualified teachers, with FE/HE experience. Teaching experience in paramedical or medical laboratory technician courses would be an additional advantage.

Staff appointed to these posts may be required to work for some weeks outside normal term times, taking time off in lieu.

Salary scaled in accordance with the Burnham (FE) award effective from 1 April 1983: Head of Department Grade IV £14,148–£15,849; Senior Lecturer £10,683–£12,552 (bar) — £13,443. Lecturer II £7215–£11,568. Each plus £987 Inner London allowance. Starting point depending on qualifications, training and experience. Applicants should indicate for which post(s) they wish to receive details.

Further information and application forms, returnable within 10 days of the date of the advertisement, obtainable from the Principal (Ref. THE28) at the above address. [illegible]

Polytechnics cont

Thames Polytechnic
School of Business Administration

SENIOR LECTURER/ LECTURER II IN MARKETING

Applications are invited from those with relevant first degree and experience of Marketing Management; experience of International Marketing and of the applications of computing will be advantageous. Research and consultancy are encouraged.

Salary scale: Senior Lecturer £11,670 — £13,539 (bar) — £14,430) inclusive Lecturer II £8,202 — £12,555).

Further particulars and application form from the Staffing Officer, Thames Polytechnic, Wellington Street, London, SE18 6PF, to be returned by 15 November 1983. H3

Personal

IMMEDIATE ADVANCES £100 to £20,000. Written terms on request. Regional Trust Ltd., 31 Dover Street, Piccadilly, London W1A 4RT. Phone 01-491 2934 or 499 5416. L000

REMINDER

Copy for Classified Advertisements in the **THES** should arrive not later than 10am Monday preceeding publication

Don's diary

Saturday

Time to say *au revoir* to our hosts in Sydney. In three weeks there has been time to meet old friends, make new ones and see something of the spectacular environs of this exuberant city. Growing so quickly at the time of its foundation it gives a much more mature, less brash impression than many another Western city. But never is one far away from reminders of its brutal beginnings as a convict settlement. We settle down for the long flight to Bali, which is to be our staging post.

Sunday

Bali is Western Australia's Majorca, being nearer to Perth than either Sydney or Melbourne, attracting jumbos full of Australians on package holidays. Away from Kuta Beach (Bali's Palma Nova?) one can spend days without seeing another occidental face. Site of countless Hindu temples, it is inhabited by some of the friendliest and most charming people in the world, albeit with well-developed talents for parting the tourist from his cash. Some of the dancing is of recent origin, having been devised in the last 50 years or so as part of the tourist industry. There is no denying, however, the tremendous artistry of the costume design and choreography.

Monday

We felt that hiring a taxi and guide for the day was a justifiable extravagance since we could make up our itinerary and vary the pace as the scenery demanded – and scenery there was in abundance. Temples, some hewn from solid rock, some painstakingly assembled from huge pieces of local stone. A people taking its religion very seriously – everywhere votive offerings of flowers, sometimes fruit and grasses, freshly prepared each day.

Terraced rice fields, some bearing three crops in the year and all planted with awe-inspiring precision. Two very active volcanoes, one of which, within the last 20 years, has wiped out a town of over 1,600 people. A last look at Kuta Beach, where most evenings may be seen the most spectacular sunsets imaginable. All over in a few minutes, but breathtaking while they last. On to Java.

Tuesday

Yogyakarta. Jogja, as it is universally known, is Java's second largest city, the island's cultural capital and base for visitors to the recently restored Buddhist monument at Borobudur – a huge stone pyramid set in a plain bounded by volcanic ranges. As a photographer it is my hope to mount an exhibition next year which will convey something of this stunning edifice. The present visit is primarily to "case the joint". There is an infinity (at any rate over three miles) of carved reliefs portraying incidents in the life of Buddha, and many great bell-like *stupas*, most containing a representation of the Gautama in one of the classic poses. I have clearly set myself an enormous project. Next stop Java's capital, Djakarta. By now we take for granted the smooth efficiency of Indonesia's national airline, Garuda, in relieving the tedium of long-distance jet travel.

Wednesday

Sheila returns to the UK today and leaves me to a varied programme of photography for a British firm of civil engineers with projects all over South-East Asia. Weather now becomes crucial and as we drive out to the first assignment a tropical rainstorm bodes ill for photography. However, as we arrive, the rain clouds miraculously (or for the tropics, routinely) disappear an are replaced by blue skies and billowing white cumulus. Perfect.

My job is to photograph phase three of this seven-phase project. Phases one and two are both large cement works, already in production. The first cement will emerge from phase three in a few months. The piles are going in for phase four. Such is the expanding nature of Indonesian industry that it is already known that the final total production of the seven phases (1.6 million tonnes per year) will be inadequate. I am assigned three young non-English speaking Indonesians to carry my equipment and help out. They are immensely interested and once they have assimilated my routine they are keen to pass me the next lens or camera-back or whatever. To begin with I am apprehensive, but soon gain confidence. We are a team.

Thursday

The steel-mill is about 20 miles from Krakatoa, the off-shore island and scene of the big volcanic bang exactly 100 years ago. Iron ore is converted into steel which in separate mills is turned into sheet, wire, tube, billets or slabs.

My job is the slab-mill, where white-hot molten metal is continuously cast into a red-hot ribbon a metre wide and 15 centimetres thick and cut into slabs weighing several tonnes each. Crouched, sweating, on a crane beam over this deafening inferno, I realize that back at NELP, just about now, Directorate would be meeting. What a contrast, I think, unless one has an allegorical turn of mind. I chide myself for being surprised at the sight of these young, asbestos-clad Javanese handling hot metal and high technology with cheerful confident competence.

Friday

Several hundred miles north to a small jungle-covered island straddling the equator where an airstrip has been laid down. My brief, to show earth-moving plant in use. A very bumpy drive round the site revealed some promising locations and we set up rendezvous with the plant operators for various times during the day. Clearing jungle from the runway undershoot with a bulldozer proved both interesting and exciting. I was assured that the snakes, with which the island is infested, would have retreated from all this noisy activity, but "mind the swampy bits".

Balletic, perhaps, is the only way to describe the movements necessary to leap between fallen tree trunks, escape the falling ones, keep an eye on the swampy bits, convey instructions in sign language to the 'dozer driver and in between times take a few snaps.

I was sorry to miss a carefully planned set-piece photograph. A dozen items of large plant-dumpers, bull dozers, graders – lined up with great precision on the apron would have made a grand cover for the Annual Report. However, at the appointed hour – no drivers! They had all gone to the *say yong*. The call of the local brothel had overcome promises of overtime. And in all that heat.

Back at the compound I had a cold beer and the shower to end all showers. I politely declined a portion of tree-snake casserole, made my excuses and left to catch the next flight to the UK.

Peter Bourne

The author was until recently assistant director and dean of the Faculty of Art and Design at North East London Polytechnic. Since taking voluntary redundancy he has been establishing a freelance photography business.

Barrault at the Barbican

Bernard Crick

It was sheer luck. I had been hanging around the pitch and the clubhouse to report on *Maydays*, or the Red Milk Cup quarter-final. David Edgar *versus* the critics. Seeing it on two nights running and feeling generally happier about the club, I had stayed on for the Sunday night solo. In years to come it will be enough to say to my grandchildren (or somebody else's), "I was there that day". Let me try and give a true and impartial account of the confused and terrible events that occurred.

The lights dimmed into total darkness. Then a spot illuminated the great actor, black shirt and black trousers, miming walking up stairs, a routine mime-exercise done with mastery. There was huge applause for the 73-year-old cult hero both of the theatrical profession and all lovers of theatre. Then he began to speak – in French. The surprise should not have been too great, but as he went on and on, rustle and whispers spread as many waited for the performance to begin. But this was it. Now like most of the audience, I suspect, I certainly "have to concentrate" and "don't quite get every word", but he was going on and on, with beautiful gestures, eloquent face and hands part of the language, truly looking 20 years younger than we knew he was, so a good advertisement for part of what he was saying: "By now I think I have contracted a religious fervour toward the human body. I don't mean this body limited to the skin and five senses but, let us call it, the integral, the magnetic, perhaps mystical body."

I take this from a translated extract of a mere 150 words that appeared on a little leaflet on our seats, which was simply the first two minutes of a long lecture: "And so I have wanted to compose a show that celebrates the language of the body by running in bird's eye view over the history of mime, of pantomime, both of breathed language and, more generally, of the 'magnetic body'."

He used these exact 150 words in his opening sentences. I make this point partly to convey something of the flavour but also, in view of what subsequently occurred, to make the point that there was a full script. Someone could have provided full programme notes as at a concert. Anyway, after about 40 minutes of going on in a French philosophical way about mime being a universal language of communication, punctuated or illustrated by two brief mimes, that of the birds flying and of the man undressing on a stony beach and swimming, just as the paradox of talking about mime so fluently began to dawn on us and just as I was beginning to tire a little – to be honest – at the effort of following a highly abstract discourse in a foreign language, though the sheer delight of watching him and of sharing in this great occasion left me very pleased and quite content, a voice cried out from the gods: "I am very angry. I cannot understand this." One of our *enfants du Paradis* stood up in the front row of the upper circle with arms outstretched in a mime of pleading. "I want to understand you."

Horror, shock, shame – speaking personally; could it be? No, it wasn't. Barrault stopped, looked half-annoyed, half-amused, gave a wry grin and said in English: "they asked me to speak in French." The young mime above continued: "I forgive you, but I must understand." Shouts of "sit down!" "Go on", "Please continue" to Barrault. But some counter-shouts of "Translation! Translation!" and a bellow in what sounded like Franglais of *"Ce n'est pas un show."*

He resumed his lecture with dignity and to a huge round of applause. But a drift began, more from the stalls than from the circles or galleries – my eyes were now more on the mob than on the stage. Who can measure crowd sizes on CND demonstrations, still less "theatrical drift"? But I'd say it was of the order of 2 to 5 per cent. Quite enough to be disturbing. He was going on about the different forms of expression that could come from the cervical, thorasic and lumbar vertebrae, when either the volume of noise from little indignation meetings in the side-passages reached him, or another heckle in French (but this time it sounded English: *"Ce n'est pas mime, c'est paroles."* He stopped, the shouting and counter-shouting resumed. He walked off. "Oh the shame of it!" cried the three girls in front of us. After a stunned pause, the overwhelming majority started applauding – a moment's fear that he could misinterpret the applause. But in less than a minute, he returned. I wonder what was said, or what he simply thought for himself? He had every excuse to walk out after being so insulted by an ignorant self-indulgent audience. All right, a misunderstanding about the nature of the occasion, but what lack of manners and respect if we couldn't suffer in silence for 90 minutes. Not merely did he return, but surprisingly dropped his lecture, with the small illustrations of mime, and plunged immediately into famous routines, the immensely technical and physical *Man Catching a Horse*, full of the symbolism of man both loving and destroying nature, and the purely amusing, gentle *Fishing* (a mime of the kind of his pupil Marcel Marceau). Few words of explanation, he simply with extraordinary generosity of spirit entertained and calmed the audience: the old entertainer rather than the teacher mystic had us eating out of his hands. The septuagenarian stopped only when he was obviously exhausted.

Tremendous applause and three curtain calls, no encores of course. How can you give an encore in a lecture? A good man in the front shouted: "I want to say for us all how ashamed we are at this insult to M. Barrault" (or did he actually say, "national insult"). But voices answered: "The management's to blame", "We didn't come for a lecture".

I went into the King's Head and joined a crowd of angry mimes. They were collecting their ticket-stubs for one of them to write a letter of protest demanding their money back. For unemployed street-entertainers, as most of them were, to pay £9 for a ticket to not understand their hero, and to see but little miming until the uproar changed the evening's course, was sad. Most of them won't go near the Barbican again.

However many times they each had seen *Les Enfants du Paradis*, they evidently didn't know what the great cry from the turbulent gallery had meant: *"L'argent retour! l'argent retour!"*. I wish I could have coached them in time. I felt sorry for them, and it so exposed our educational system. The few who "could follow" were all drop-outs or dedicated artists from "better schools", that was clear: the evening exposed the difficulties of the classless fraternity of mimes and poor young actors.

The RSC's advance booking forms and publicity said only "Jean Louis Barrault", gave the date and a quote about him from the *Daily Telegraph*. They treated him like a cult figure, not a human being.

They brought this sad, comic but shameful and revealing episode on themselves. But it was total theatre all right.

International union view

Slow road to end inequality

The THES (August 19) reported on the low representation of women as academics in Australian universities. Less than 17 per cent of Australian university academics are women, compared with 60 per cent of schoolteachers.

Moreover, women are concentrated at the lowest levels of the academic hierarchy, making up 43 per cent of tutorial staff but only 2 per cent of professors. Over half – 54 per cent – of Australia's female academics do not have tenure, compared with less than 16 per cent of males.

The Federation of Australian University Staff Associations (FAUSA) believes that these figures provide clear evidence of indirect discrimination against women in the Australian university system. Of course, Australia is not alone in this regard. In contrast to more easily recognized overt or blatant forms of discrimination, indirect, "systemic" discrimination is embedded deep within the traditions, administrative structures and employment practices of universities world-wide. It is subtle, pervasive and unspoken.

In 1981 a working party report was published calling upon the federation to adopt a strong policy on discrimination against women. Accordingly, in 1982 FAUSA elected a standing committee on affirmative action and moved to amend its constitution to create a second position of vice-president to hold the portfolio of affirmative action.

It also adopted policies on campus child-care and on the need to extend access to higher education for women students. In the previous year, resolutions had been carried which eliminated sexist terminology from the federation's constitution and forbade its use in federation publications and documents.

In its first term, the new committee has produced a submission to the minister for education and youth affairs, Senator Susan Ryan, on the need to include universities under proposed affirmative-action legislation and a paper which outlines principles for the elimination of sexist terminology from university documents and discourse. A statement on the use of non-sexist language in all official university publications has been agreed with the Australian Vice-Chancellors' Committee (AVCC), which has commended it for the attention of universities.

A background paper, *Towards non-sexist language*, will constitute the first part of a handbook on equal opportunity to be distributed to FAUSA's constituent associations.

Work is proceeding on sexual-harassment grievance procedures for negotiation with the vice chancellors' committee, and on further papers on women and research, university appointments procedures and child care.

The published documents have been widely circulated and extremely well received, and have helped to place FAUSA at the forefront of Australian education organizations in the battle to improve the position of women in the Australian education system. But leading the way is the federal minister for education and youth affairs herself. Senator Ryan, long a supporter of women's rights, has demanded that universities put their house in order and take positive steps to implement affirmative-action plans.

Within the federation, progressive moves on behalf of women members have not been accomplished without pain. Loud disapproval has been voiced by several senior male academics. But many vice chancellors appear to have embraced the principles of equal opportunity more easily, as is shown by the AVCC's positive response to the statement on non-sexist language and the good progress being made in negotiations on equal opportunity guidelines between representatives of the two bodies.

For some academics, however, traditions and assumptions central to their perceptions of the university are threatened by moves to eliminate practices which discriminate against women.

So far the opposition has been isolated and unable to gain widespread support.

Although consensus may be strong on such an issue, a few voices can command inordinate notice when they appeal to traditional, more comfortable beliefs. Most of us have a conservative substratum which can be brought to the surface, whatever the colour of our current ideology. Thus, it could be that opponents of change will gather support for a return to older and less confrontational values for Australia's university staff. Such a shift would diminish the hope of redress for women, so long denied equality of opportunity for academic careers.

Jane Nicholls

The author is research officer of the Federation of Australian University Staff Associations.

LETTERS TO THE EDITOR

Matchbox economics of Scottish policy report

Sir, – Your issue of October 28 carries a report on the Adam Smith Institute Report on Scottish Policy. It is always difficult to know how to deal with rubbish of this kind. If one responds to any of the lunatic proposals in the report, does that give the proposals credence? If one ignores the whole thing, does that leave some readers believing that the proposals have some merit?

The proposals reflect the slipshod matchbox economics of a so-called "think-tank" that is unworthy to bear Adam Smith's name. Among the gems of profound economic thought in the report is that "the people of Scotland would be better off if the Scottish Development Agency's money had been invested in Premium Bonds" – a neat confusion of money and wealth.

Confusion is in fact the key word. A discussion of schools suggests that central funding of schools could be removed without either a reduction of funds to the schools or a need for parents to provide fee income. Equally, in the case of universities, central recurrent funding should be channelled through student fee income in order to provide a dynamic, responsive university system. Apart altogether from the fact that universities are not just concerned with undergraduate teaching, this completely misses the economic point that the fixed asset resources (library facilities, laboratories, teaching rooms, etc) require planned capital investment as well as recurrent expenditure.

Other areas of the report contain simple untruths. It is not true, for example, that "many more Scottish students fail than do English ones". It is not true that "more people in Scotland work in microchips and in new financial, communications and medical technology than in the old industries of coal, shipbuilding and steel".

It is possible to believe one conclusion of the report, however. It states that one of the current problems of Scotland's education is "incessant political interference and changes in aim". I suppose that whether one considers the general stupidity of the report to be innocent or pernicious depends on whether our political leaders recognize claptrap for what it is, or clutch at it to justify yet further dismantling of the structure of educational opportunity in Scotland.

Yours faithfully,
ALLEN J. McTERNAN
Publicity Committee, Association of University Teachers (Scotland),
Heriot-Watt University, Edinburgh.

PICKUP

Sir, – In her article about PICKUP (*THES*, October 21) Felicity Jones writes that "… £1m has been *given* to the Open University to develop distance learning with the aim eventually of becoming self-financing." (My italics.)

This is not strictly accurate. First the whole of the OU's programme in continuing education (outside the degree courses) is required by the DES to be self-financing. Secondly, the original £1m in 1982/83 and a subsequent £1.5m in 1983/84 were offered to the university as loans, not as pump-priming grants. The university is likely to draw down a substantial part of these funds, but is required to pay all the money back, with interest, over a period of serveral years.

As far as I know, the OU is the only university or polytechnic required to finance its continuing education programme in this way. Certainly the Open Tech projects are being financed by grants, not loans, and the University Grants Committee has not yet made any loans to universities.

Yours faithfully,
PROFESSOR J. H. HORLOCK
Vice Chancellor,
Open University.

NAB 'confusion'

Sir, – Your editorial (*THES*, October 21) comparing the Council for National Academic Awards and the National Advisory Body's approach to research policy betrays signs of confusion. First you state "The NAB paper attempts to draw a distinction between 'research' and 'scholarship' which is difficult to sustain".

In fact the term "scholarship" does not appear in the NAB document. The distinction made there is between "research" and "updating study". The latter term is not intended to be synonymous with "scholarship" but evidently you regard it so. You then go on to say that the NAB definition "implies that scholarship is a cheap and marginal activity".

This is the exact opposite of the view the NAB document takes of updating study. Such study it declares "… is a necessary activity for all staff engaged in teaching in higher education … any funding arrangements to cover updating study would therefore have to be applied 'universally'". The document goes on to suggest ways in which these arrangements might operate.

Yours sincerely,
LESLIE WAGNER
Assistant secretary (academic),
National Advisory Body for Local Authority Higher Education,

Jewish culture

Sir, – I read with great interest your informative article (*THES*, October 21) on the resistance and the suppression of Jewish culture in the Soviet Union.

May I, however, clarify one important point. Your article refers to the seminars of *refusnik* Jewish scientists as "clandestine". Although those seminars are unofficial they have always been conducted with no attempt of concealment, often being visited by foreign scholars, and held under the constant surveillance of the KGB. The Soviet authorities are now presenting these inoffensive educational activities as "schools for spies".

Yours faithfully,
NAN GREIFER
Jews in the USSR
Editor, [illegible]

Architectural research

Sir, – I refer to the interesting letter from C. Thornton (*THES*, October 7) and his remarks on the value of research in schools of architecture. While the existing situation is not ideal and much remains to be done, the author may like to hear about the achievements of architectural research as his letter, I believe, conceals a fundamental and widespread misunderstanding about the nature of such research.

Architectural research *has* "emerged in a form which is of practical use in the profession". It does this in a number of ways, some more direct than others. At one end of the spectrum, a considerable amount of research is undertaken on behalf of government departments and influences government policies and statutory regulations, which have a direct effect on professional activity. A current example is the work on energy conservation in buildings (notably at Cambridge, Edinburgh, Newcastle and UWIST). Similarly, recent products of computer-aided design research can be placed under the fashionable head of "technology transfer" and mention should be made of the successful marketing by the National Research Development Corporation of the work by units at Sheffield (GABLE) and Strathclyde (ABACUS).

It must also be understood that while a major part of research in the schools of architecture is in the field of building sciences, there is also significant emphasis on the social aspects of architecture, design theory and historical subjects which tend to be neglected in larger research establishments.

To this should be added that the expertise built up through research in many schools of architecture is used on a continuous basis by architectural practice both in the form of consultancy and in joint projects. Most of the value is invested in the researcher rather than the research project.

Last and perhaps most important is the role of education in research application. One of the key motives for locating research centres in universities and polytechnics is to give students insight and experience into the developing boundaries of their subjects. This is perhaps as much a question of the creation of an attitude of mind as of the learning of new techniques. Seen in this light, 15 years of research related to the timescales of architectural education is a very brief history to evaluate. The cohorts of students who have had experience of architectural research during their education are only now coming into positions of responsibility but the early indications are encouraging.

The frustrations of practitioners with the pace and subject matter of research is often understandable. However, a much wider view of its nature is required if a successful dialogue between research and practice is to be established.

Yours faithfully,
JOHN PARTRIDGE
Chairman, Research Steering Group,
Royal Institute of British Architects.

Nuclear disarmament

Sir, – You published on October 21 an advertisement signed by a number of academics who clearly believe that the Campaign for Nuclear Disarmament

(a) is opposed to multilateral disarmament measures;

(b) aims for unilateral nuclear disarmament by the West;

(c) maintains that we are faced "with a choice between surrender to the Soviet Union and a nuclear holocaust".

Please allow me to say, as a member of the CND national council, that all these beliefs are quite simply false.

Perhaps the first step in the "open and rational discussion" desired by the signatories might be for them to find out what the CND is saying before they attack it.

Yours faithfully,
RICHARD SEAFORD
The Queen's Building, University of Exeter.

Sir, – Might I suggest that members of the academic community who support the Campaign for Nuclear Disarmament write to at least one of the signatories of the "open letter" with whom they are acquainted expressing anger and dismay at the *ad hominem* arguments there produced and the travesty of the CND's assumptions and objectives.

Yours faithfully,
KEITH DIXON
Professor of Sociology,
Simon Fraser University,
British Columbia, Canada.

Chinese puzzle

Sir, – In reviewing Roderick MacFarquar's *The origins of the cultural revolution* (*THES*, October 14), Dennis Duncanson suggests that "one in eight or nine of the population – was its (the Cultural Revolution's) victim".

I would be grateful if you would confirm that he means, as appears to be the case, that something more than *fifty million people* died in direct consequence of Chinese government policies of that period.

A fact of such staggering consequence ought not to be left less than absolutely clear, especially in view of the influential support for Maoism at the time by many intellectuals in the West.

Yours sincerely,
DR. DAVID MARSLAND
Professor (Associate) of Sociology,
Brunel University.
Department of Sociology, and Social Anthropology,
Brunel University.

Continuing education

Sir, – One does not have to agree with all Richard Hoggart's views to be excited by the stimulation of his article Robbins II (*THES*, October 28). Like him, I deplore our failure to provide adequate facilities for the increasing demands for continuing or lifelong education. As far as the universities are concerned this hurdle will never be overcome until the extra-mural departments are abolished. For only then will the main faculties and departments accept credit-transferable part-time programmes into the mainstream of their activities.

Yours sincerely,
PHILIP F. NIND,
The White House,
Abinger Common,
Surrey.

Letters for publication should arrive by Tuesday morning. They should be as short as possible and written on one side of the paper. The editor reserves the right to cut or amend them if necessary.

Admissions to Oxford

Sir, – A statement about people's motives and purposes is a factual statement and therefore subject to assessment as correct or incorrect, however hard it may be to discover which it is (I say nothing about unconscious motivation.) The statement of your front-page article (*THES*, October 28) that the reforms proposed by my committee at Oxford "were also drawn up to head off critics … who complained that too many private schools won Oxford places" is incorrect.

My committee would not have been so unrealistic as to imagine that any intelligent critic could be "headed off" by reforms which, though they will very probably have the effect of increasing the Oxford intake from maintained schools, will not necessarily and inevitably have that effect.

Speaking for myself, my own strong desire for reform originated in a set of recurrent difficulties and frustrations which did not include subjection to criticism for taking too many undergraduates from independent schools. The issues of *policy* raised by that criticism are of the highest importance, but they are separable from the problems of admissions *procedure*, which would still have been problems even if all Oxford applicants had been coming entirely from one category of school.

Yours faithfully,
SIR KENNETH DOVER
President,
Corpus Christi College,
Oxford.

HMI reports

Sir, – I am instructed by my faculty board to write to you about your coverage of the recent Her Majesty's Inspectorate's report on this polytechnic's certificate of qualification in social work course (*THES*, October 28).

Not only did you deal with this report under a negative headline relating to a totally different course in a totally different institution, but your account is a gross distortion of the HMI's comments. Your story devoted 95 per cent of its length to two criticisms, of over-crowding and shortage of secretarial support, and gave only the grudging recognition that "otherwise the inspectors were happy with what they saw".

Contrary to the impression which you gave, almost all of the evaluatory comments dealing with the structure, content, teaching, assessment, and staff/student relationships were very positive. The report makes frequent use of such terms as "excellent", "impressive", "enthusiastic", "imaginative", "appropriate", "relevant", "well-organized" and "interesting".

Staff in the disciplines of social work, sociology, politics, social policy and psychology are praised as knowledgeable, keen, well-qualified, and effective teachers. The teaching is described as clear, logically presented, well-prepared, and showing skilfull attempts to draw on the experience of mature students.

We would accept that there were also criticisms, dealing with accommodation, resources and secretarial help, together with some small details concerning elements of the previous course which has now been phased out. However, the balance of the report was so strongly positive that your account gives a completely false picture of what the inspectors said.

Yours faithfully,
GEOFF PAYNE
Dean of faculty of social science,
Plymouth Polytechnic,

Sir, – I was surprised to see that your report (*THES*, October 14) on the HMI report on mathematics in Manchester Polytechnic made no mention of responses made by me to questions posed by your reporter. In particular, I pointed out that HMI references to the "polytechnic directorate" were "mystifying".

To put the record straight. The points of substance will be addressed. The report's more obvious inanities will be pursued in the proper place. Meanwhile, my colleagues and I remain totally unaware of any conversations on which the particular conclusion of HMI could be based.

Yours faithfully,
KEN GREEN
Director,
Manchester Polytechnic.

Union View

Keeping their heads down

Now what would you do if you wanted to savage the country's education budget? It really would not do to turn too many fully qualified people away from college would it? You could get away with some, 5,000 say, maybe 10,000 but after that it might get a bit embarrassing. For one thing, think of all those intelligent young people on the dole queue – never know, they might get a bit discontented. A bit radical, even! And for another thing, what would their mums and dads say: After all, you've been ripping taxes off them for the last 20 years on the understanding that their offspring would get a chance at higher education.

No, it might get a bit difficult if you were to close down too many courses and shut too many colleges. A much better idea would be to cut the amount of money you spend on each of the brats whilst they are at college. Of course, this will lead to a pretty severe decline in the quality of education which the individual students receive. And I suppose somebody might say it was the direct opposite of all that nonsense you promised about standards in the manifesto. Still, if you just kept on insisting that black was white, maybe you could ride the storm. Hopefully, nobody would really notice the bigger class sizes, the overcrowding, the reduction of book and teaching materials and the disappearance of lots of options from the syllabus. Well, the students might notice it, but when have you ever really cared about the feelings of students?

At least you could depend on the people that run the colleges and polys to keep their heads down. After all, they are not going to say that the standard of education in their particular institution is going down, are they? If they did then you would single them out and nobody would go there. Of course there is always the chance that those directors and principals might get together and start making noises. Still, if that happens you only have to throw an extra £20m into the pool to keep them squabbling amongst themselves. The trick would be to keep them kicking around in committees and well away from the public. At the same time, of course, you can make sure the electorate are completely baffled with all the jargon that you dress the cuts up in.

Now there might be a problem with some of those local authorities, especially the lefty ones who seem determined to maintained a decent service for their community.

Well, first you will have to take some of them out to dinner and explain how reasonable you are being. If that does not work, you might as well just bring in a law to take their authority away. You will have to move quickly though, because people might begin to realize that they like their education and other services run by people they can elect themselves. All this talk of faceless unaccountable Whitehall bureaucracy might begin to strike a chord with some people. They might start thinking we are getting a bit too close to 1984 after all. Speaking of 1984, while you are at it, you might as well get rid of all these radical subjects like sociology and the humanities. We don't want too many people coming out with an understanding of how the society operates. Goodness, they might start wanting to change all this inequality and stuff. After all that is not what education's meant to be about, is it?

Yes, it does not look too bad. You just have to keep hoping that the arguments against you do not get too wide a circulation. These damn students seem to be making a little bit of a breakthrough, but it might still be all right if everybody else keep their heads down.

Tommy Sheppard

The author is vice president education of the National Union of Students.